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HOUSEBOATS AND HOUSEBOATING

EDITED BY

ALBERT BRADLEE HUNT

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PREFACE.

THIS volume is devoted to a field entirely new in the literature of the day. The purpose is threefold:

To make known the opportunities American waters afford for enjoyment of the houseboating life.

To present in an adequate measure the development which houseboating has attained in this country.

And, chief of all, to set forth the qualities of the houseboat in such truthful picturing that a larger number of people may be prompted to prove for themselves its advantages and delights.

The field is a broad one. The houseboat already has a place on many waters of the United States from Casco Bay to the Golden Gate, from the St. Lawrence to Lake Worth; and with every season the boats are increasing in numbers and growing in favor. Permanent popularity is assured, for the houseboat possesses qualities which are lasting in their appeal. Houseboating is simple and domestic. In it are combined life on the water and that home life which we care the most for. Thus to make known the attractions, conveniences and compensations of living on a houseboat, as illustrated in the chapters which follow, should mean the enlisting in its following of a constantly growing host.

In the preparation of the volume the editor has been favored by many houseboat owners with a co-operation so cordial and generous that it is a pleasure to make grateful acknowledgment here. We should not fail to name especially Dr. V. Mott Pierce, Mr. Charles D. Mower, Mr. Frank H. Ball, Mr. Charles Ledyard Norton, Mr. John Price Wetherell, Mr. Edward P. Field, Mr. William Gillette, Mr. Lafayette Lamb, Mr. R. W. Haddock; Messrs. Tams, Lemoine & Crane, Messrs. Swasey, Raymond & Page, and Messrs. Sadler, Perkins & Field.

ALBERT BRADLEE HUNT.

HOUSEBOATING IN AMERICA.

THOUGH the houseboat has never been so widely used in this country as abroad, one hears a great deal nowadays of houseboating, and it is evident that this particular field of outdoor life is attracting attention. In England, houseboating has been popular for a long time, but in this country it is only within a few years that Americans have awakened to the great possibilities of the sport. From present indications, in less than a decade it will have become a recognized institution in the United States.

It has often been said that there is no river or water in America which corresponds in conditions and surroundings with the English Thames, where houseboating flourishes as nowhere else. This is far from true. Compare the natural advantages of a city like New York with those of London. True, the sluggish, winding Thames, with its historic piles lifting through copses of beech and oak; its towers, so ghostly in the moonlight; its cathedral spires and the clustering hamlets about, lend a certain charm to a houseboat cruise from the great metropolis of England. But from the standpoint of natural advantages, it is not to be compared with Long Island Sound, the Hudson or the Connecticut.

For scenic variety there is nothing in the world comparable to the diversity of interest found in our landscapes and sea views, picturesque riverways, and mountain panoramas reached by the houseboat in only a few hours' travel. Even to one who has become more or less familiar with these routes, their charm is never ending. The Hudson may be traversed to its full length, and the northern canal is available should one wish to houseboat through to Lake Champlain, and thence to Montreal and the Thousand Islands, or through the Erie Canal to the Great Lakes. The Connecticut River is navigable for a long distance through some of the most picturesque portions of New England. The St. Lawrence in New York and the Shrewsbury in New Jersey in summer, and the various bays and inlets of Florida in winter, are among the chief haunts at present of houseboats on the Atlantic Coast. On the Pacific they are numerous in the vicinity of San Francisco, and in the Middle West; indeed, wherever there are populous towns in the vicinity of sheltered waters.

Englishmen have for the most part been content to let their houseboats lie quietly moored along the shore or at anchor in the placid waters of their inland streams; but the more restless American temperament demands in many cases some motive power. Steam power, however, with its attendant fires and heat and smoke, is deemed objectionable by many, even on a craft of considerable size. Sails, whether carried on the houseboat or on her tender, are, at best, uncertain; but

within a few years the perfection of the gasolene motor seems to afford just what is required; and, upon the whole, they are not very costly, considering the work they do. So the advance in houseboating in America is rather along the aforementioned lines than in the direction of the type so well known in England. This is probably due, in great measure, to the difference in the social conditions of the two countries and their way of taking their pleasures. In England, when a man has gained a competency, he retires at an earlier age and devotes himself to enjoyment. If he owns a houseboat, he prefers to spend the summer on the water. Weeks and weeks are passed in this lazy drifting life, without a single visit to town or one thought of business cares. But the average American business man, though he possess more wealth than he can possibly spend in his lifetime, is still not satisfied to relinquish the reins to others, and must keep in touch with the office, even when he is supposed to be enjoying his vacation. So if he indulges in a houseboat it must be a fast one, that he can reach the city readily. He takes his stenographer and several clerks with him, and often transacts as much business on his outing as he does when at home. But there are many Americans, and their number is constantly increasing, who find the sport sufficient in itself, and who give themselves up completely to the *dolce far niente* existence which the English have made an art, and which, perhaps, the majority of Americans are too apt to regard as a kind of laziness, but which is nevertheless a great storing-up process of nerve energy.

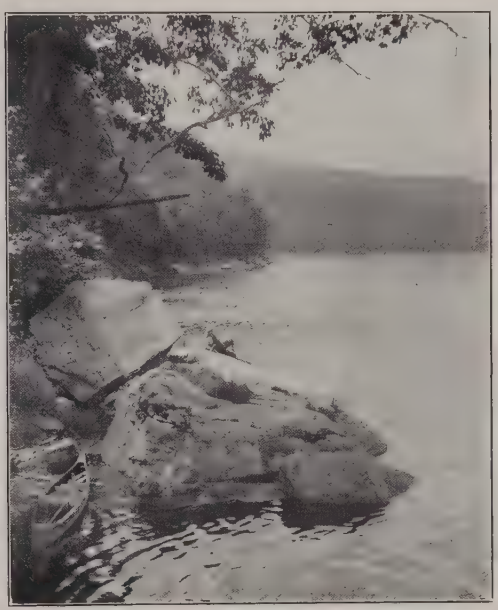
THE HOUSEBOAT BARNACLE AT HER ANCHORAGE IN MANHASSET BAY, L. I.

Indeed, the pleasures, profits, and delight of houseboating are quite limitless. As

THE SIMPLE LIFE.

A SHELTERED BIGHT.

pointed out, the English houseboats are much simpler in construction than would be necessary here, for they are confined practically to one field—the very mild and interesting Thames. It has nothing of the current of the Hudson to contend with, and surely nothing like the tides of the Sound. Nevertheless, for commodious apartments and fittings for the complete comfort of the individual, they may well be taken as patterns for the ideal. But what makes the life so particularly jolly in England is the fact that there are so many people who are taking their leisure so truly leisurely, and who have houseboats on which entertainments are given for the delight of other houseboaters as well as the occasional guest from the city. Evening hops on deck, smokers' parties, musicales and chafing-dish regalements are more than delightful under these *al fresco* conditions. In a degree these most charming and pleasurable social characteristics of English houseboat life are nowadays being mirrored in many waters in various parts of the United States, reflecting, as it were, the steady growth and advance of



REVERIE.

ALONG THE BEACH.

the sport on this side of the ocean. While one may despair of seeing anything quite so delightfully lazy as the English houseboat life about New York for many years to come, yet it is confidently believed, as indications already point, that there will soon spring up here a genuine and widespread enthusiasm for a sport which has found such lasting favor abroad. Americans, it may be truly said, are not slow in adapting themselves to circumstances. They have taken up house-

COMFORT ON DECK.

boating and they will make of it a great success. In doing this it will probably be necessary to modify the English ideas on the subject.

The Ark was undoubtedly the first houseboat; but, unfortunately, records give us little idea of its domestic arrangements; its motive power is also lost in the mists of antiquity. Yet a traveler going up the Thames to Henley, the Star and Garter, Hampton Court, or wherever the point of designation may be, will often see an acknowledgment of the initial suggestion in the word "Ark" painted in gilt letters over the door of some roomy affair. For the most part, however, the owners of the houseboats have a leaning toward the picturesque in the names selected, and "Summerholm," "Venice," "Rosary," "Ibis," etc., are more likely to be chosen.

Indeed, one naturally thinks of the Thames in speaking of the houseboat, as of the Nile in mentioning the dahabiyeh. The English, and next to them the French, have utilized the houseboat for summer life on the water for over a century. Who of the many Americans who have visited what has been called the prettiest and most effective social aquatic spectacle in Europe, the annual regatta of Henley-on-Thames, does not hold as his or her most vivid memory of the beautiful scene the long line of houseboats with their floral and other decorations, and their picture of refined and luxurious outing life. There were nearly three hundred of these houseboats at Henley last season, and the Thames and other English rivers are filled with them during the summer months.

In point of fact the houseboat is to-day one of the most permanent and important institutions of fashionable English life. It is a concomitant part of the social machinery of Mayfair, as important a factor, indeed, to the pleasure-loving Britisher as is his great town house, or ancestral country seat, or hunting lodge in Scotland, or yacht off Cowes.

A GEORGIAN BAY HOUSEBOAT.

ON THE DELAWARE.

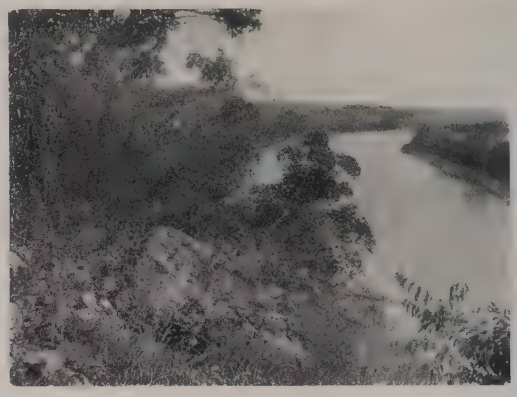
ON THE SHREWSBURY.

On the occasion of the Henley regatta it seems as if all London had come up to live on houseboats. It is the world of fashion on water—it is the portable Venice. My Lord and Lady, his Grace the Duke, and her Serene Highness, all keep open house or rather houseboat. It is no unpretentious entertaining that the Britisher does in his floating residence during Henley week. His great retinue of servants is there in full force—butlers and footmen and grooms. There are elaborate dinner parties in the long, gorgeously furnished saloon. There is music in the spacious drawing rooms. On deck the beaux and belles of the Empire step through the mazes of the cotillion, or wander through those tropic gardens which give the boat the appearance of a vast floating island to beholders on the shores.

In China the houseboat is almost a synonym of pleasure; while in the vale of Cashmere,

"Where the nightingales sing by the calm
Bendemeer,"

IN THE TROPICS.



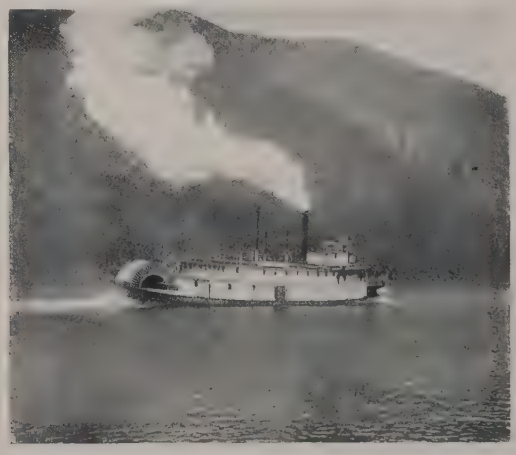
THE RIVER STRETCHED AWAY BEFORE US.

as Tom Moore wrote in the exuberance of geographical rhyme, tired British India looks forward to the month in a houseboat among the floating islands of the Lake of Srinajar as almost the nearest thing to physical happiness which he can find on the wrong side of the parallel dividing Europe from Asia.

Living on a houseboat for the summer is as usual a custom there as residing in a seaside cottage here, and those who do not own a boat may easily rent one for a month or two. These houseboats for hire are kept ready for occupancy, and the men in charge will row one out from the shore and show the good points as the janitor does those of an apartment. There are many houseboats on the Seine and other French rivers, and their number is increasing every year.

Many persons believe that Florida is about the only region in America where houseboats are used to any extent. It is true that in that land of sunshine and flowers are all the conditions which make the ideal place for houseboating. The sluggish waters of the rivers and bayous and the wide stretches of the lakes and lagoons, with the dense overhanging foliage of the tropical forest, make it, indeed, a wondrously pleasant place in which to en-

A WOODED SHORE.



A "KICK-UP."

TYPE OF HOUSEBOAT ON KOOTENAY LAKE.

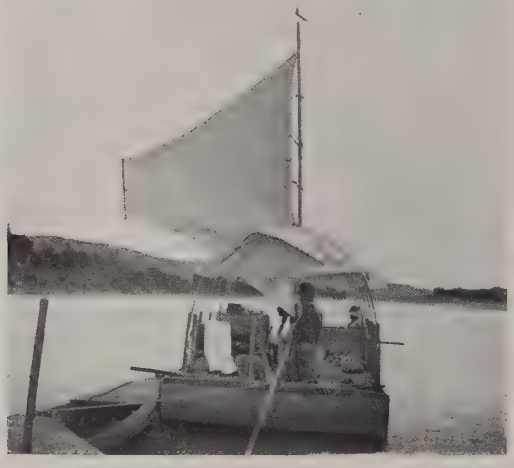
SKETCHING AT ONE OF THE LOCKS.

joy an outdoor life. In Florida perhaps the houseboat is seen at its best; but it must not be thought that the southern waters monopolize all the advantages, for, as previously told, there are many localities in the North and West that are quite as well adapted to the sport. It is down on the Indian River, however, that one may find a houseboat colony flourishing under ideal conditions, and, in its social features, coming nearer to the houseboat life on the Thames than anything else in this country. During the season beautiful Lake Worth at any moment during the day presents a pretty sight with the many electric launches swiftly sailing in all directions, and with a half dozen houseboats moored along

THE HOUSEBOAT AS A FLOATING STUDIO.

the channel of the lake. At night these boats with their electric lights and the distant lights of West Palm Beach add greatly to the charms of a walk along the lake front avenue. It is all very well to drift lazily in one's own boat and moor where one will, but it is an uncommonly pleasant thing to moor among other houseboats, to exchange social amenities, to meet other idlers informally under the gay awnings on summer afternoons or in the moonlight to listen to the twang of guitars, the lilt of a girl's voice, the shiver of cracked ice against glasses, to watch the expert handling of a chafing-dish, to dance cakewalks down between the palms and flowers under the swaying Japanese lanterns; to be highly gregarious for a time and then to go idling on, leaving conventions and social obligations behind. They do that sort of thing down on the Indian River; and since the time when the late Pierre Lorillard towed the first houseboat into those waters, a whole fleet of craft has sprung up, ranging in importance from boats little more pretentious than the shanty boats of the Ohio to floating homes equipped with every convenience and luxury. Many of them represent an outlay of about five hundred dollars, while others will run up into the thousands, and are as spacious and luxurious in appointment as money can make them.

Many of these houseboaters spend four or five months of the year in traversing the Florida coast from St. Augustine to the Keys, stopping a week here and a week there; now anchored in the shade of a cypress forest; now drifting past mile after mile of deep, verdant savannas; now lying on quiet shoals in the delicate perfume wafted from orange groves and magnolia gardens. The more venturesome of the houseboatmen, when they have grown weary of the quiet of the sluggish lagoon, trail out into the ocean and thence to Lake Worth and into Biscayne Bay, through the Cards Sound and along the tropic shores of Key Largo; drifting in and out of the intricate maze of the upper Florida keys; skirt-



MET BY THE WAY.

A SAN FRANCISCO HOUSEBOAT INTERIOR.

A HOUSEBOAT IN SAN FRANCISCO HARBOR.

SACHEM'S HEAD HARBOR.

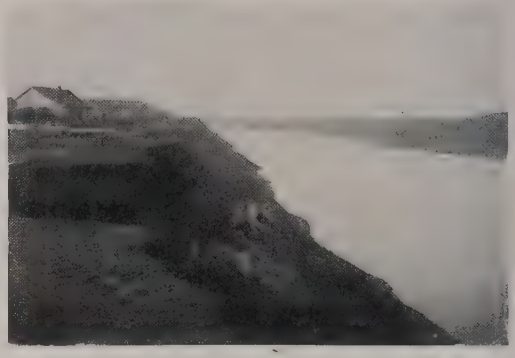
ing the fringe of the untrodden mangrove swamp; rounding Northwest Cape and floating into the White River Bay, and from there right into the heart of the Everglades.

But the Florida coast is only one of many regions in the United States which offers itself to the houseboat enthusiast. Within twenty-five miles of the New York City Hall there is ten times the extent of coast line available for houseboating that exists in the vicinity of any other great capital, not excepting London herself and her vaunted Thames. In fact nowhere in all this broad land nor the world over are the opportunities for houseboating so great as in the immediate vicinity of New York. A season can be spent drifting from one vantage point to another without beginning to enjoy the many charming locations which nature has to offer to the water nomad. Englishmen are convinced that no such stream as the Thames exists for this delightful pastime, but unbiased Americans who have traveled extensively assert that from the viewpoint of natural advantages there is nothing in England to compare with those New York has to offer.

Among the particular localities which afford safe anchorage for the houseboat are

NEW ROCHELLE HARBOR.

REFLECTION.



OVERLOOKING THE BLUFF.

those along the Sound; Great South Bay, Gardiner's Bay and Orient Point offer many attractions, while New Haven Harbor presents the advantages of the world-famous college town, about which there are excursions innumerable which will gratify the mind as well as please the sight. The quaint old town of New London comes next in point of attraction, and if the seeker for variety desires further acquaintance with coast resorts and has the temerity to venture out from the friendly shelter of the Sound, there are Martha's Vineyard and Cottage City, quaint and charming resorts that are cool, refreshing and restful; Woods Hole and Buzzard's Bay and on into the famous old whaling harbor of New Bedford.

Within a comparatively few minutes of the Brooklyn Bridge are Jamaica Bay, Rockaway Inlet, and Sheepshead Bay. Parts of the Harlem and East rivers are adapted for anchorage, and the west bank of the Hudson under the Palisades presents an ideal location, safe and out of the way of general traffic. The several bays along the Jersey shore are abundantly supplied with alluring hiding places, and the Staten Island shore, just below St. George, presents any number of attractive features, among them the adjacency to the city, the excitement of the arrival and departure of the big ocean liners, as well as the novelty of an ever-shifting water pageant in which the boats of all nations and of every sort and description take part.

An ideal place for a houseboat is on Barnegat Bay, where there are miles of landlocked water, with many little creeks and inlets for anchorage. You may be at the head of the bay, or up Toms River, where communication is excellent, and fresh meats and fruits within easy reach; or you may go further from civilization, with the corresponding gains and losses. With a catboat as auxiliary, a very comfortable summer may be spent in Barnegat waters, especially if good fishing is an object.

Nowhere can the amateur make such a record, especially when the bluefish begin to run, while the earlier fishing is hardly less satisfactory. The streams flowing into the bay are delightful for rowboat exploration, and the wild sandy dunes between bay and ocean are by far the most picturesque part of the Jersey coast. There are already a good many houseboats in this region, and new ones are added every year; but thousands of them

ON DUTCH CANALS.

would not use up the fine anchorages or perceptibly crowd the more desirable havens.

There are a large number of houseboats on the Shrewsbury River, and each year there will be additions to the fleet. The owners of these are near enough to town to make daily trips; but the river lacks the attractions of the wilderness, and the excellent fishing which Barnegat affords. In place of these are the Long Branch boats, the afternoon drives down shore and the fish suppers of Pleasure Bay, so the balance is more even than would at first seem. The Shrewsbury, though only a few miles in length, has many branches. The North Branch, or Navesink River, is a most delightful locality for houseboats. At Patterson's Cove, Clay Pitt Creek, and other places, may always be found a number of boats during the summer season. On the South Branch, in the vicinity of Little Silver, there have been houseboats for many years. Passengers on the steamers from New York to Long Branch may locate a dozen or more of these craft at different points along the shore in among the islands after the point of the Hook has been passed on the down trip.

Lake Hopatcong is another place where houseboats are yearly built and occupied. The lake is picturesque and delightful, and the boats pretty and comfortable, but cottagers are very properly exacting about pollution of the lake, so that disposal of waste is a serious problem. Further south, in the waters of the Manasquan and Shark rivers and other places, primitive yet cosy houses are not infrequent. Up along the shores of the Sound, on the Long Island and Connecticut coasts, "the house on logs" is frequently to be observed. Where only a few boats were to be seen five

A VISTA OF BAR HARBOR.

PRESTON LIBRARY

years ago, to-day there are scores; showing that the fad, if the sport can be so called, is growing rapidly. The Hudson opens its entire length for the houseboat with or without engines or sails, and the houseboat turning its prow up the Hudson may "hit the long trail" across the canal to Lake Champlain, wander on into the St. Lawrence, and bring up in the far-off Fundy. Such a thing has been done. But this, like the outside cruising off the Florida Keys, is venturesome houseboating—houseboating Americanized, so to speak.

GOING FOR THE MAIL.

The houseboat as a pleasure craft has many advantages over any other style of vessel. The most important considerations are those of cost and danger, either of which, as compared with the like on the steam yacht, is infinitesimally small. Only the millionaire—and the muti-millionaire at that—can afford the extravagance of a well appointed and properly manned steam yacht of any size, and in no other kind is it safe to venture out to open sea. Unlike the yachtsman, the houseboatman is not at the mercy of a crew. He is his own captain and his own navigator, and if needs be his own cook. He is the most independent man on the face of the waters. His staunch little houseboat can push in where the most seaworthy yacht could not, and would not, dare to venture.

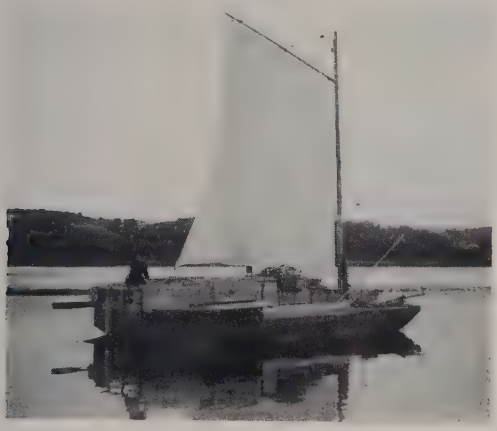
Perhaps one of the reasons why houseboating is becoming popular is the opportunity it affords the feminine part of a man's family to join him in his outing. The cramped quarters of the ordinary yacht or sailing vessel do not permit of much comfort to a woman. But in a houseboat she is at home. The roof gardens that adorn many houseboats afford the women of the family ample opportunity to potter among the flowers and plants, always so dear to one of domestic tendencies and tastes. It is, after all, a matter of fresh paint, gay awnings, rattan deck chairs and flowers, for a houseboat is not the place for

INLAND WATERS.

AN IDEAL CAMP SITE.

restraint in color. The little feminine touches here and there, the housekeeper's careful supervision, and the presence of woman herself, go far toward making it so thoroughly attractive, and altogether an ideal life.

One of the greatest charms of life on a houseboat is its complete freedom and independence. If the owner so wills, he can cut himself and family off from civilization as completely as does the hunter and angler who plunges into the deep woods and travels afar,



A PRIMITIVE TYPE.

simply to avoid the crowd and to be alone with nature. The disciple of houseboating has many advantages over the man who seeks the woods and mountains. A comfortable habitation with a tight roof and a dry bed is always at hand. Plenty of supplies can be carried without any extra labor, which, supplemented by fresh meat and poultry and vegetables from the market or farmhouse a few miles away, will feed the houseboatman like a king. He may take his entire family away with him for months—something that is hardly practicable for the man who is camping out. In these days the average American

ON THE UPPER MISSISSIPPI.

is so used to certain conveniences of the city that he sadly misses them when sojourning in the woods; nearly all of them can be carried along on the trip of the ordinary houseboat.

To the person who means to take a clear two months' vacation, to the business man who wants a "week-end" house and amusement, and to the ordinary autumn holiday-maker, the houseboat offers probably more change and refreshment than could be obtained by spending an equal sum on any other means of living, accommodation and amusement. Only one thing must be taken for granted or made a condition. The life ought to be more or less a lazy one. There can be no "energies and activities" of a very positive

THE LUMBERMEN'S HOUSEBOAT.

kind, very little entertaining, and in almost every case there must be a certain foregoing of very cherished household customs obtaining on land, which must not be expected on the water. Meals cannot very well be so elaborate. Rather early rising will be the rule, as it is on board a yacht; and there cannot be much entertaining, because for houseboat life a minimum of servants is essential. Servants are a difficulty always, as they hate not to have all their usual apparatus round them.

A CHINESE HOUSEBOAT.

Here is a plan by which from three weeks to three months may be spent delightfully. It is a practical scheme, and if a party can be arranged with all members congenial, it can be made a red-letter year in the commonplace recreation record. At a cost astonishingly small, many charming points of interest are available; and if the members of the party are inclined to artistic or literary tastes, the time and material to indulge them will be furnished daily from the varied itinerary. It is a trip by canalboat, reconstructed into a houseboat, and includes a tour through the Hudson, Lake Champlain, the St. Lawrence, Ontario, etc., with side excursions to Saratoga, Lake George, the Adirondacks, Montreal, Quebec, Niagara Falls, and the cities of central New York.

HOUSEBOAT MANATEE IN FLORIDA WATERS.

HOUSEBOAT HOSTESS ON LONG ISLAND SOUND.

Near South Ferry, New York, is found an old landing place for the canal boat pilots called Coenties Slip. There are hundreds of canal boats there, and they come from many points of the north and west as far as the Great Lakes. For the most part these boats are commodious and well built, and as they are usually occupied by their owners, they are,

HOUSEBOAT ON THE SEINE.

naturally, very particular about the kind of freight they carry, their families living on the boats, the barques are kept in a fine condition and in worthy trim for human habitation from end to end.

These craft can be turned into houseboats for the accommodation of from six to fifteen holiday seekers for a summer's cruise at an expense not exceeding five to fifteen dollars per week each. The interior can be painted, carpeted with rugs, small partitions of wood or compo board made, cots put up, and conveniences for both men's and women's comfort provided. A library may be installed, cases and chests for cameras and fishing paraphernalia, a piano, and folding tables. It could not only be made a clean and sweet sleeping room, but a pleasant shelter for rainy days.

On deck above, newly painted and made presentable in every way, an awning can be stretched, and underneath chairs, settees, hammocks, rugs, etc., with appropriate flags at bow and stern. In the larder aft would be stored such necessaries as the city affords: canned goods, preserves, groceries, and wines and tobacco if desired. As for the staple articles of food—meats, eggs, vegetables, and milk—they are available every day along the route, and this is one of the advantages of the houseboat cruise.

The owner of the craft will probably accompany her to act as pilot, and, if so desired, his wife or relative will serve as cook at wages of four or five dollars a week. If the party is composed entirely of men, excellent male steamboat cooks are to be found in

AN EGYPTIAN HOUSEBOAT—THE DAHABIYEH SCARAB.

the vicinity of the slip whose hire does not exceed forty dollars a month. These men are capable of serving a great variety of dishes.

The largest and finest of these craft may be had, including owner-pilot services, for about one hundred and forty dollars a month, although the smaller ones, known as "feeders" may be secured for a less sum. This includes putting the boat into condition for human habitation. Two boats going together will lighten expenses very materially.

THE ROCKLEDGE SHORE OVERLOOKING INDIAN RIVER.

If the time is short, a trip as far as Plattsburg, where an excursion into the Adirondacks may be taken, will be found pleasurable. This will include short stops at Albany, where a dash to Saratoga may be made; Glens Falls, where a trip to Lake George is a delightful day's journey; and Lake Champlain, with its historic associations. If, however, more time is at the excursionists' disposal, the boat may be carried on to Montreal, Quebec, Lake Ontario, and Niagara Falls, the return route being made by way of Erie Canal. Certainly, for diversity of scenery and interest historical and legendary, as well as for opportunities to the hunter and fisherman, the itinerary could not be excelled.

With a congenial party, there is no limit to the sport. The route is one of the most picturesque on the whole continent. For artists the boat may be turned literally into a floating studio. A good camera as well as musical instruments will be found recreative, the former for odd moments of the day, the latter for moonlight nights on deck. Bicycles, or even an automobile, may be taken with advantage for the sundry side excursions, and a tent for the Adirondacks and elsewhere if a land trip is indulged in far from the floating headquarters. With all these diversions, and the cruise an absolutely safe one, there should be no hindrance to a charming summer's rest cure.

To the lover of nature in her calm and quiet moods, there is nothing more picturesque than some canals of the United States.

AMONG THE THOUSAND ISLANDS.

CAMP OF THE AMERICAN CANOE ASSOCIATION.

TYPE OF POWER CRAFT FOR HOUSEBOAT TENDER.

Perhaps the old Chesapeake and Ohio Canal as it follows the Potomac River from Washington to Cumberland is as grand in scenery as any. The ragged crags of the Point of Rocks, the mossy grandeur of Maryland Heights, the superb beauties of Harper's Ferry, where the waters of the Shenandoah meet the Potomac on its way to the sea, are but a few of the glories along the line of this historic canal. A mule is the best motive power on a canal, for the swash from a propeller wears down the strongest banks.

On this canal the jaded man of business can spend a week or ten days gliding almost imperceptibly, parallel with one of the grandest rivers in the world, sleeping in commodious apartments, breathing the pure air of the mountains and absorbing the beauties of a prodigal nature.

In Canada, too, there are houseboat

Dinghy.

Dory.

SMALL SAILBOATS FOR HOUSEBOAT TENDERS.

colonies, of which the one on the Kootenay is probably the best known and most popular. The railroad company was responsible for the innovation, building and equipping the houseboats as lures for hunters and anglers. The experiment was a success. Not only sportsmen, but mere lovers of primitive scenery and wildwood life found their way into the region, and the Kootenay houseboats are never tenantless from June until October.

MOST OF THE HOUSEBOATING IN FRANCE IS ON THE SEINE.

California has her houseboats, and the "arks" of San Francisco Bay, sheltered by the island of Belvedere, are long established institutions. Here a bath is a matter of stepping off the porch, a stroll is taken in a boat, and the splash of oars announces butcher and baker. Many of these boats are owned by groups of young fellows who must be all day in the city, but in this way manage to make vacations of their early mornings and evenings. Whole families occupying others give the needed element of girl. A decrepit ocean steamer, the Tropic Bird, serves as one summer cottage, while another is made of four horse-cars of the variety known as bobtail set on a float. It is a life of good health and good fellowship, and winter has to announce itself with some sharpness to drive the colony ashore. In the Middle West, where the waters are sheltered, houseboats are not by any means an unknown quantity. Several very elaborate and comfortable craft with numerous smaller boats are anchored on the beautiful lake, Minnetonka. The Mississippi, whose strong current is somewhat of an obstacle to happy houseboating, has nevertheless one of the handsomest houseboats in this country. A wealthy lumberman living in a Mississippi River town has had built for him a luxurious summer home, and propelled by a

A HOUSE FOR SEA OR LAND.

A San Francisco house which may be removed from the scow for use on land.

TWO VIEWS OF THE INTERIOR.

sternwheel steamer. All through the long summer this houseboat, filled with jolly parties of guests, wends its way up and down the great river, anchoring where whim suggests, moving on when will dictates.

The Ohio and Illinois rivers have their houseboats. A favorite home of the summer houseboat is on Georgian Bay and among the Thousand Islands of the St. Lawrence River.

The most beautiful waters in America are inaccessible to the ocean-going yacht, be it steam or sail. The long shallow bays or lagoons, landlocked by the keys of shifting sands, are strangers to all but the fishermen with their flat-bottomed punts. The yachtsman casts a longing eye at the labyrinth of bays, inlets, and bayous, whose glassy waters are shadowed by primeval foliage. He knows

LAKE WORTH, PALM BEACH.

Some of these houseboats, both on Georgian and Alexandria bays, are most elaborately appointed and decorated, and really are quite equal to many a summer villa or cottage. They are so large as to contain twelve to fifteen sleeping rooms, in addition to drawing, dining, and smoking rooms, and kitchen and servants' quarters, and are generally two stories high, with a roof garden on the flat top of the second story. The English houseboats as a rule have the kitchen and servants' quarters on a small tender.

that these waters are full of fish. The banks invite exploration, but his experienced eye, as well as his chart, show that there is not depth of water sufficient for the passage of his deep draft craft. Not so the owner of a houseboat. He can sail on any waters that will support the drifting wreckage of the sea.

When the purse permits, the problem of locomotion of houseboats is easy. Assuming that the boat is of simple type, without means of its own for propulsion, and that the cruise is upon waters where towing from the banks

A GLIMPSE THROUGH THE TREES.

A LIGHTHOUSE ON THE GREAT LAKES.

is not practicable, a small launch has been found the best.

It is well known that a given horsepower will tow much more effectually than it can propel. Witness, for instance, a single tugboat towing a mile or so of big coal barges and making very good time, in spite of the enormous drag upon her cable. A small launch, with any of the improved motive powers, will walk away with a vessel of twenty times her displacement. Not, of course, against wind and tide, but under favorable conditions, and such are all that a houseboatman ought to expect. With a launch to go a-marketing, or for the mail, or to call upon neighbors afloat or ashore, the problems of houseboat navigation are greatly simplified without infringing upon the space intended for the accommodation of passengers and crew. However, the compact little engines which so swiftly propel the various types of motor craft are of sufficient power to give speed to the ordinary houseboat. There is no waste of power. Sufficient gasolene can safely be stored in bulkheads at the forward end of the boat to last for an extended cruise, and there is no risk worthy of consideration.

As indicated, there are distinct classes of houseboats; those that only float and must be moored; those that may be towed; those with sails; and those carrying naphtha, gasolene or steam engines. The towing houseboat has been called the flower of its kind. Two men in a rowboat can move the average houseboat without great strain, and poling works wonders; but the canny houseboat skipper relies upon wind and tide for much of his work. Your true housekeeper is altogether willing to wait on tide and wind. He is going nowhere. He has forgotten the meaning of the word "hurry." All he asks is that the views from his deck chair or hammock may be beautiful, that as he looks from his dining room window he may see long vistas of shimmering water and woodland greenery, or watch water and trees and sky drift by, slowly, gently, cloud-like, while he steals through a network of marshes, still lagoons, or shallow, winding creeks, rivers, or canals.

A large houseboat is far more comfortable than any large craft even approaching it in

size. It is "house" first, and "boat" next. In other words, no room is taken up with propelling machinery, stores, keel, shaft, masts, or other things needed in a yacht. All the space goes to accommodation. You bathe in the river or bay, your "hall" is the deck, and you have the minimum of lumber of all kinds. But you do want something in the nature of a yacht's steward, a fact which suggests an opening for retired persons of that profession, for the amount of work needed daily is comparatively slight.

Houseboats may be home-made at a comparatively trifling cost, or the product of the professional yacht or shipbuilder, running into thousands of dollars. The pleasure to be derived is not to be measured by their expensiveness. Health and comfort, the maximum

HOUSEBOAT HOME LIFE.

luxury at the minimum cost, these the houseboat places within the reach of every one.

The average houseboat costs anywhere from one hundred to one thousand dollars. There is, of course, hardly any limit as to what may be spent in this direction, and houseboats worth from two thousand to five thousand dollars are by no means uncommon. In the latter the item of engine and machinery makes up a considerable part of the cost. But whether the houseboat be worth one hundred or one thousand dollars, there is nothing to limit the pleasure and satisfaction of the owner. For all practical purposes a houseboat costing in the neighborhood of five hundred dollars has been found to answer every need. Another hundred spent for furniture has given the happy owner a home that no one need be ashamed of. When one thinks of how many people there are who pay this amount or more for the rental of a stuffy little cottage at a summer resort for a single season, the argument is all in favor of owning one's own home for the outing months.

The houseboater has "troubles of his own," but they are not the familiar and sordid problems of the seaside cottage. Anxiety about the neighborhood is diminished, because, to a certain extent, your neighborhood can be changed at will. There can be no haunting anxiety about drains when the longest one measures two feet six and empties without a trap into running water. The twin questions of lawn sprinkling and grass cutting do not present themselves at all, and you may moor your boat to your front door knob and defy acknowledged thieves as well as nominal borrowers. A houseboat may be a reconstructed sailing craft, or a shanty on a scow, furnished in a style inexpensive or elaborate.

A HOUSEBOAT ON SAN FRANCISCO BAY.

HOUSEBOATING IN ENGLAND.

BY C. E. THOMAS.

IN the event of no earlier writer having worked off the ancient wheeze, I may perhaps be pardoned the suggestion that the original houseboater was inspired to build his craft by the description in Holy Writ of the Ark, the name, by the way, of one of the earliest of English craft of this character, and still used. Certain it is that the skipper of this most ancient of houseboats could not have been an American, or he would have rigged her up with power of some description. He is more likely to have been an Englishman, for the present day English houseboat is still practically a barge with a few rooms built thereon, and there has been no development in the direction of fitting with a motor or sails. In fact, the most notable exception, a species of combined houseboat and launch, once owned by Colonel Fitz-George, son of the Duke of Cambridge, was quite an early craft.

The reason for this apparent slackness in the country which introduced the pleasure houseboat is that on the Thames, the houseboat river *par excellence,* the conditions of life and traffic regulations only admit the possibility of what is practically a stationary floating home, and not one to be moved every few days or so.

Different conditions prevail, say, on the Broads, the fine waterways of Norfolk and Suffolk, where the pleasure wherry, a development of the ordinary craft of commerce on these waters, with its one huge sail, is, perhaps, more in keeping with the American idea of a houseboat. But the wherry does not represent the English idea, for which one must visit the "silvery Thames" in the height of the summer season, notably during Henley Regatta week, when numerous fine craft form an attractive background to this grand aquatic picture.

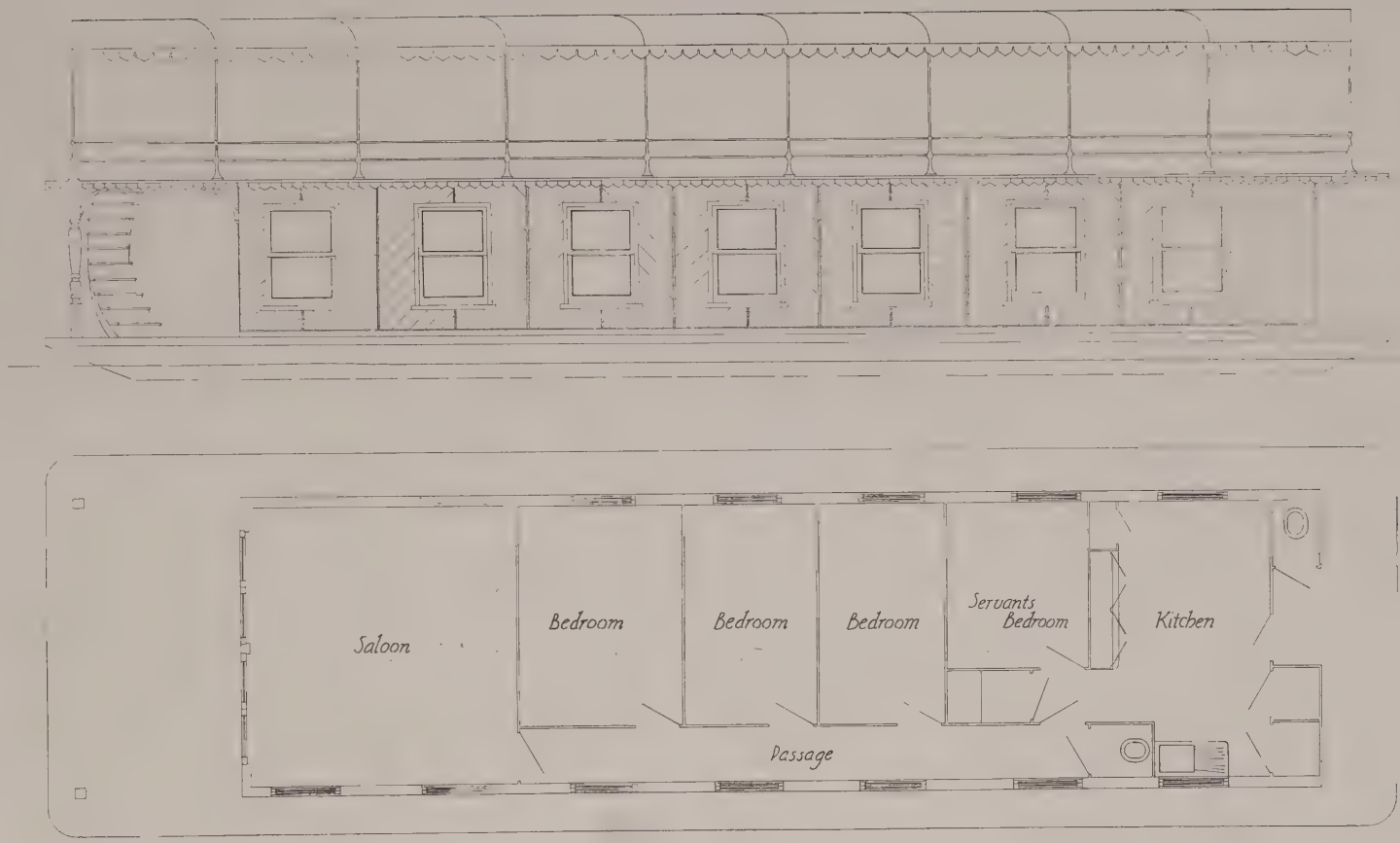
The early history of the Thames houseboat is not very easy to trace, but there is little doubt that the inception of the idea came from Oxford. At any rate the first of these craft seen there was of very remote date. Originally it was a barge, used, before the days of railways, as a "fly-boat" for carrying purposes between London and Oxford, when the river was indeed the Thames Highway, the barge, with its team of eight horses, making a pretty quick journey. When this craft had served its time of usefulness for traffic purposes, a house was built on it, and it was devoted to boat-letting purposes by Messrs. Davis and King, the predecessors of Messrs. Salter Bros., the promoters of the Oxford to Kingston launch service, which is so popular with American visitors in England. Mr. Davis and Mr. King lived in alternate years on board their roomy craft (she is one hun-

dred and seven feet long and seventeen feet nine inches broad, and the largest in Oxford, for it is still in existence). The barge was an old boat when taken over by Messrs. Salter in 1858, but remains in use for boat-letting purposes, and is known as "Salter's green barge," forming a landmark in boat race practice. It has been in its present position for between sixty and seventy years; for a few years no one has lived on board, but for forty out of the last forty-four years Messrs. Salter's manager has resided on her.

Other craft responsible for the introduction of houseboats, too, were the stately old city barges, belonging to the various London companies. Many of these, on their retirement, were taken to Oxford, the first probably between 1850 and 1860, and were used by college boat clubs as quarters; they have all disappeared now, but the Oriel College barge of to-day was designed on the lines of one of the old city barges, and most of the modern craft have retained much of their ancient appearance.

Many well known architects and artists have designed these graceful and handsome college barges, among them Mr. J. G. Jackson, R. A.; Mr. J. O. Scott, Mr. A. Waterhouse, R. A., and Mr. H. Wilkinson Moore. The last named, an Oxford gentleman, has designed several of the more modern barges, most of which have been built by Messrs. Salter, and by the courtesy of the designer and builder I am able to give the design and photographs of the Keble College barge, built in 1899, and one of the handsomest of the Oxford College boats. The dimensions, etc., are given in the plan, and the photographs

THAMES HOUSEBOAT CIGARETTE.



OUTBOARD PROFILE AND PLAN OF A TYPICAL THAMES HOUSEBOAT, SHOWING FORWARD SALOON ARRANGEMENT.

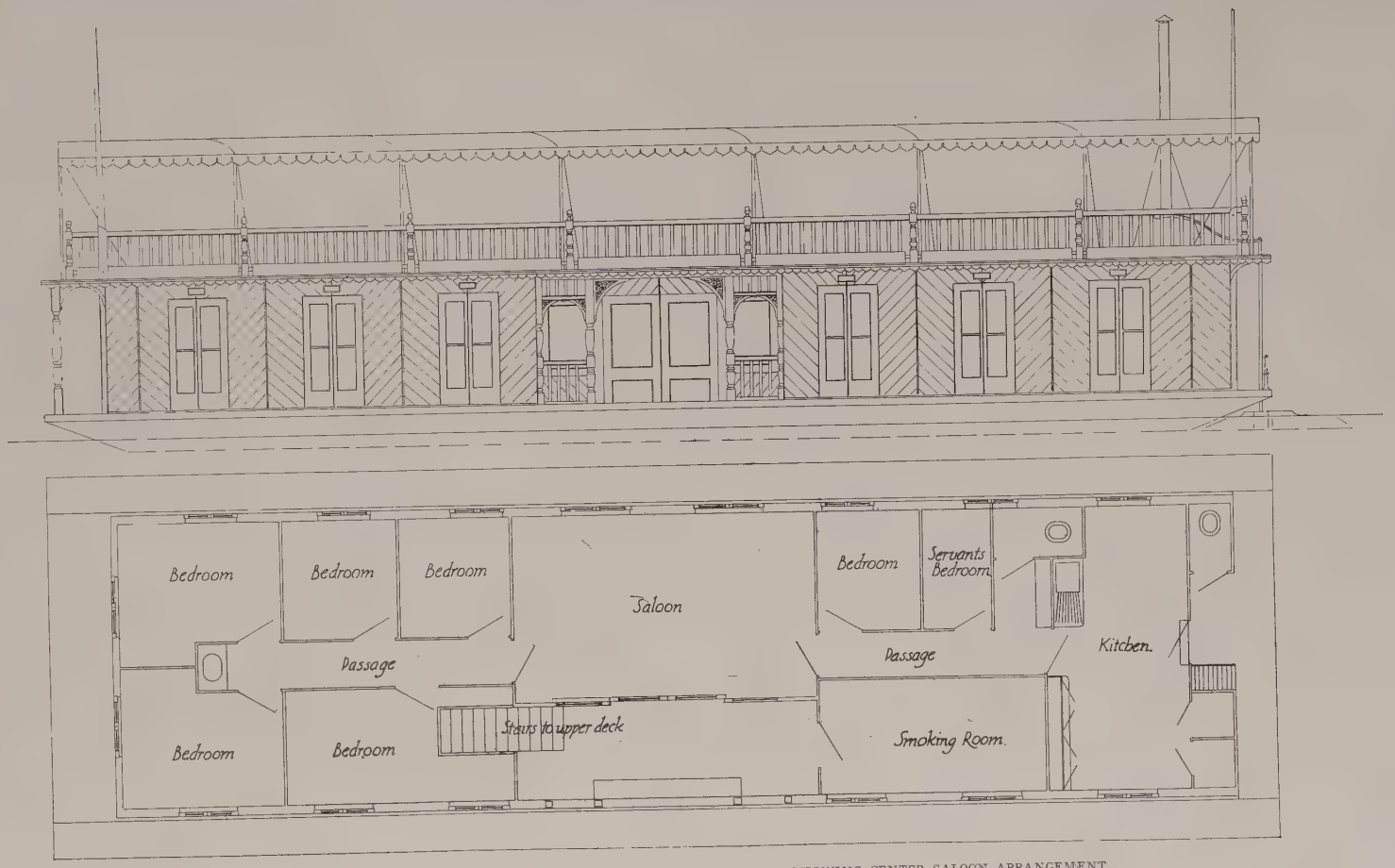
THAMES HOUSEBOAT KELPIE.
See plan on opposite page.

show the graceful and old-world appearance of one of the most striking craft on the long line of college barges at Oxford.

The last of the city barges to be used for pleasure purposes was Maria Wood, which ceased her excursions only a few years ago. She was towed by horses to Hampton Court, and was always filled with frock-coated, white waistcoated and tall-hatted magnates, most inappropriately attired for a river trip, who, with their woman-kind, threaded the mazy waltz on a hot summer's afternoon, to the amusement of what Mr. Rudyard Kipling would probably describe as the "flanneled fools" in sculling boats. Her departure seems to remove one of the last links with the old-time life on the Thames, and many rivermen have heard with regret that the ancient craft is now doing duty as a floating dock.

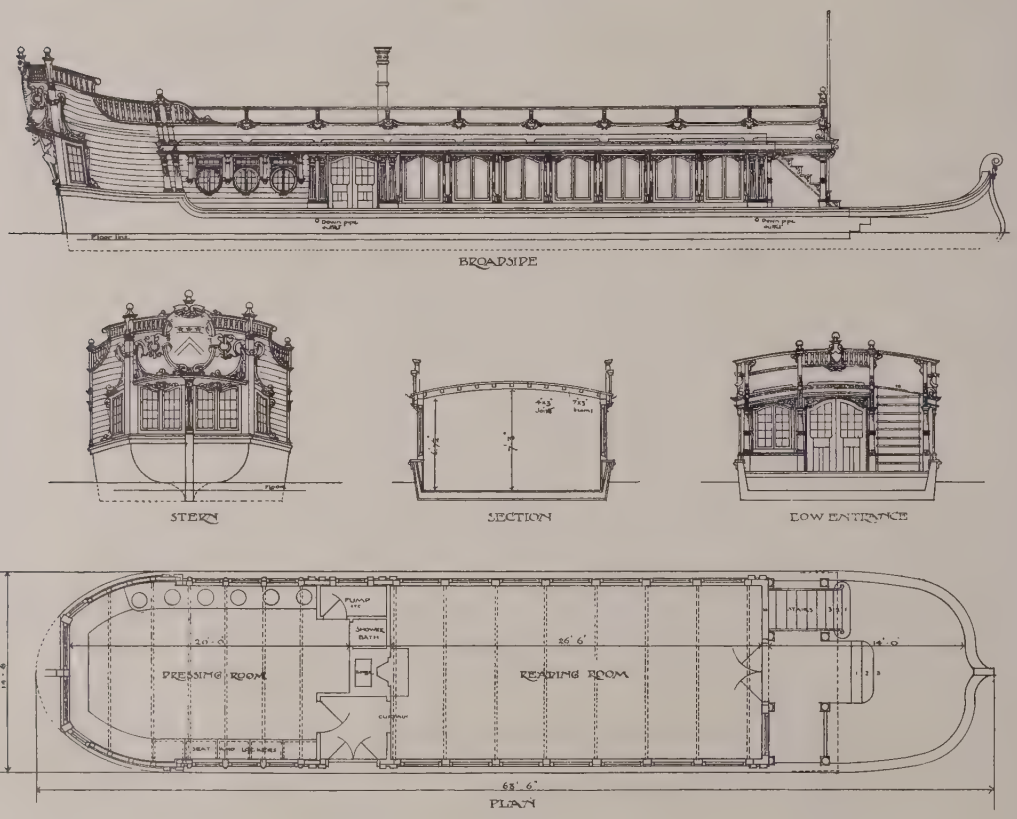
Doubtless the early pleasure houseboater seized on a ready-made hull on which to construct his floating residence, and as the Thames Conservancy regulations as to places for mooring, etc., were not so numerous in bygone days, he built a small craft which could be moved without much difficulty, and many of these little boats are still to be seen. The accommodation was limited, but Bohemianism and the concomitant delights of roughing it were the features of river life before fashion stamped the Thames as her own, and much quiet enjoyment was obtained from these small boats.

But fashion alters all things, and it has changed the Thames. The old-fashioned hostelry has become the modern hotel, the "neat-handed Phyllis" has made way for the imported dress-suited waiter, and mine host's charges have increased accordingly. Old World villages are being enveloped in streets



OUTBOARD PROFILE AND PLAN OF THAMES HOUSEBOAT KELPIE, SHOWING CENTER SALOON ARRANGEMENT.

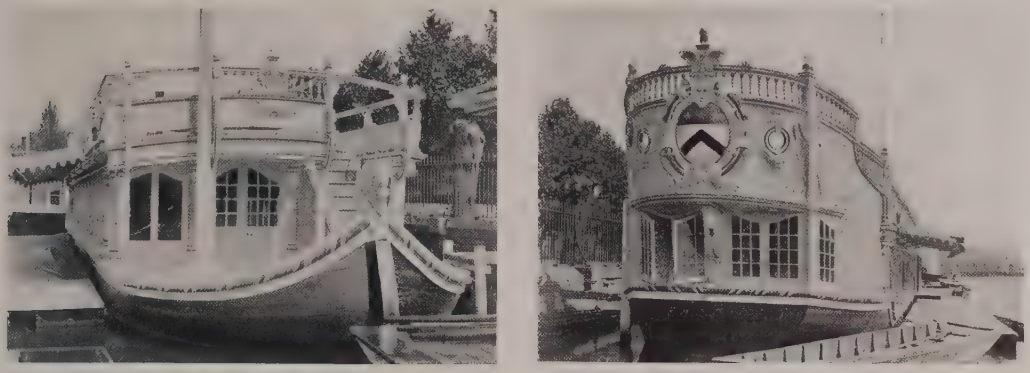
of modern villas, while ineligible riparian land is being built over, providing the conditions wittily described by the late Edmund Yates, the river being at the bottom of your lawn in the summer, and your lawn at the bottom of the river in the winter. Launches issue a long list of places where these craft may not moor, on account of interference with the traffic or with private rights, and sanitary regulations to prevent pollution of the river have been much more stringent in recent years, not even a lavatory basin being



THE BARGE OF THE KEBLE COLLEGE BOAT CLUB.

and small craft of all kinds have increased amazingly to meet society's demands, and so the houseboats have increased in numbers and to their present stately proportions.

As the Thames became more thickly populated, it was necessary to increase the regulations for public convenience and for health, and consequently the rules regarding houseboats are now very strict. The Conservancy permitted to drain into the Thames. So it comes that houseboats are forced into certain districts, chiefly where there is opportunity for obtaining a plot of land, and these inclosures are often made picturesque little gardens. This grouping together gives a most charming appearance to certain reaches, those, for example, at Molesey, Staines, Datchet, Bourne End and Henley, and there is not a great deal



KEBLE COLLEGE BARGE.

of movement during the season, except about Henley time, when many craft are taken up or down to the famous regatta town by their attendant launches or by tug, while some other regattas will attract a few houseboats from their accustomed moorings to the respective courses.

Several Thames boat builders have made quite a reputation for houseboats, one of the chief being James Taylor, of Chertsey, and to Mr. W. Bates, the manager of the firm, I am indebted for the accompanying plans. This builder is taken particularly as he introduced a distinct novelty a few years since in

KEBLE COLLEGE BARGE AT OXFORD.

the center saloon houseboat, and the plans show clearly the difference in design of the two types. Little description is necessary, as the dimensions and interior arrangements of two typical English boats are shown clearly on the plans. These craft are perfectly representative of Thames houseboats of the larger class, and are the most useful description to purchase, as they are readily sold and easily let. It is better to purchase what one may describe as "self-contained boats," with kitchen, etc., on board, and then, if cooking operations are objected to, a small craft may be obtained for culinary purposes, and for the accommodation of servants. Boats at permanent moorings, however, when there is land available, often have a kitchen and domestic offices in their garden plot. For those who do not require such large craft as those mentioned above, there are numerous small craft to be obtained, say from about thirty-five feet long upward, with saloon, three bedrooms, etc.

With regard to the number and sizes of houseboats on the Thames, I cannot do better than quote from one of the registration lists of the Conservancy, who, for inhabited craft, charge an amount of £5 for a boat of thirty feet in length and £2 for each six inches over thirty feet. Boats not used are exempt from payment, and those used as dressing places or storerooms are only charged one guinea each per annum.

THAMES HOUSEBOAT IBIS AND TENDER.

A list I have before me is the first issued in 1902, and contains the names of one hundred and twenty-five pleasure boats. The

A THAMES HOUSEBOAT SALOON

THAMES HOUSEBOAT VINIA.

THAMES HOUSEBOAT SUMMERHOLME.

following are those of fifty feet and over:

Athens 55 feet, Annie Laurie 63 feet, Aida 79 feet, Albatross 59 feet, Arcady 53 feet, British Queen 74 feet, Bohemian Girl 50 feet, Banshee 50 feet, Bedouin 60 feet, Balaklava 71 feet, Cigarette 119 feet, Cecil 75 feet, Cardinal 65 feet, City of London 69 feet, Chez Nous 65 feet, Czarina 50 feet, Caprice 50 feet, Dabchick 65 feet, Dunottar 80 feet, Empress 66 feet, Eileen 67 feet, Frog 59 feet, Folly 78 feet, Fair Maid of Perth 119 feet, Glowworm 68 feet, Guinevere 63 feet, Gloriana 103 feet, Golden Butterfly 50 feet, Golden Grasshopper 80 feet, Genesta 65 feet, Geisha 71 feet, Hirondelle 60 feet, Happy Thought 60 feet, H. M. S. Pinafore 65 feet, Ibis 113 feet, Idler 53 feet, Kittiwake 95 feet, Kelpie 63 feet, Kingfisher 74 feet, Kopperty 50 feet, Kismet 90 feet, Kelpie 66 feet, Lazyland 55 feet, La Reine 60 feet, Lelia 50 feet, Lotos 50 feet, Lotus 50 feet, Minnehaha 65 feet, Mirabelle 50 feet, Madcap 50 feet, Maid of Kent 60 feet, Miranda 79 feet, Nepoo 50 feet, Nautilus 70 feet, Nightingale 111 feet, Rouge et Noir 50 feet, Red Rover 85 feet, River Home 52 feet, Rippledene 50 feet, River God 50 feet, Swan 61 feet, Siesta 91 feet, Stella 71 feet, Sunbeam 88 feet, Syrinx 76 feet, Summerholme 74 feet, Thistle 90 feet, Venezia 66 feet, Venice 68 feet, Yahnehune 50 feet.

In some cases the extra size includes tenders. A further list contains about forty names of rowing and swimming club barges,

and what are really floating boathouses, the Oxford College barges, of course, figuring largely.

As an instance of the popularity of houseboats on the Thames, it may be stated that the registration fees add well over £900 to the Conservancy funds each year.

In the special list of places where houseboats may not moor, the Henley Regatta course is included, but this restriction is waived during the regatta week, when positions are allotted to subscribers to the funds, chiefly according to their liberality in this direction. Owing to certain unnecessary regulations regarding sub-letting, Henley houseboats were considerably reduced in number for a season or two, but in 1903 there was again a good muster, and several of the accompanying photographs were taken during the regatta, when every effort is made by artistic decoration, floral and otherwise, to make these charming craft more than ordinarily beautiful, and Henley week on a well-appointed houseboat may be safely recommended as an excellent method for disposing of superfluous dollars. A good boat will fetch £150 for the week, subscription to the regatta fund means an extra £20 for a good place, and there are no limits to hospitality for those who mean to do the thing well.

At ordinary times a good boat will fetch £10 a week, so that altogether there are worse investments than a houseboat on the Thames; in fact, it has always been a surprise to me that some company has not worked a small corner in them. A boat of, say, sixty feet long with good accommodation will cost to build from £400 to £500, and furniture, small craft, etc., could be obtained for another £100. On such a craft one would be

LINE OF THAMES HOUSEBOATS DURING THE HENLEY REGATTA.

THAMES HOUSEBOAT MAVIS.

A THAMES HOUSEBOAT SALOON.

very unfortunate not to clear £100 for several years, and then there would be an asset worth £400.

There are generally plenty of boats on the English market, for in comparatively few cases does the houseboat craze last for long. A man will buy one, and be enthusiastic over river life for a year or two, but he will then, perhaps, want to sell, for naturally there is, under Thames conditions, some monotony about houseboat existence. Fortunately there are always others to take his place, and so as each season comes round, one sees the same fine display of floating homes on the Thames, and, to gain a thorough acquaintance with river life afloat in England, I can strongly recommend the American visitor to spend a month or two on an English houseboat. He will not encounter many startling adventures, perhaps, but if he has a soul for the beauties of nature, he cannot but be stirred by the quiet glories of Thames scenery, enjoyed in all its phases by the lucky occupant of a houseboat moored in some charming reach of the river. And if he has a mind for sport, the months of July and August will give him all he can desire in the many and varied contests typical of the regattas of the season. We English are sometimes taunted with the enthusiasm we display for "Our River," as the artist-author, Mr. G. D. Leslie, styled it in his charming book, but those who have lived on its banks or afloat on the bosom of the stream can stand all this, and are ready with Milton to say "*Thamesis meus ante omnes.*"

OXFORD COLLEGE BARGE.

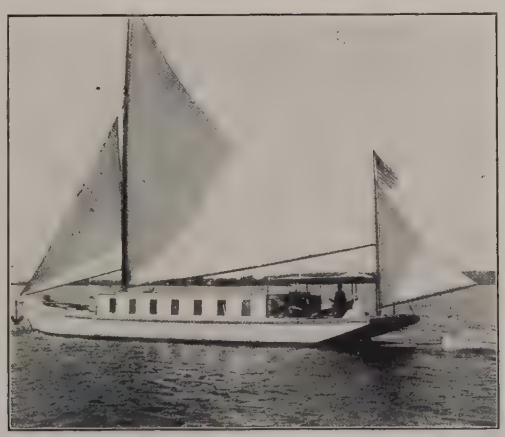
THE SAILING HOUSEBOAT SAVANILLA.

THE SAILING HOUSEBOAT.

BY FRANK H. BALL.

AMONG those who turn to the water for recreation and rest are found several distinct classes. Some care only for yachting of the most strenuous kind, and live on the excitement of speed contests, or of battle royal with the ocean when the odds are all on the side of old Neptune. Others prefer to take their water in less heroic doses, and to them the hardships incident to fighting out a storm at sea more than offset the pleasure to be derived from such an experience. This is the class who seek the more protected waters of bays and rivers, where, with comfortable quarters from which to radiate, they take to the water as much or as little as suits their mood, and when the game is not to their liking they are not compelled to play.

With this second class the summer cottage is the usual thing, or the anchored houseboat for those who find a special charm in life afloat. The houseboat is well adapted to this kind of life, because it furnishes a movable base from which to make day excursions in the smaller craft, but the moving of a houseboat from one anchorage to another, if accomplished by a tug, is ordinarily a rather monotonous experience, depending somewhat on the power and speed of the tug, and such trips are undertaken merely for the sake of reaching the objective point. The latest plan, and one which seems to be growing in favor, is to equip the houseboat with sails of moderate size, with which it may be comfortably navigated, thus adding something of the pleasure of yaching without sacrificing anything of the comfortable roominess of the houseboat. One of the pioneers among this class of sailing houseboats is Sommerheim, which appeared on Great South Bay in 1897. Sommerheim is a flat-bottomed boat with a large house and a sail plan of moderate size.



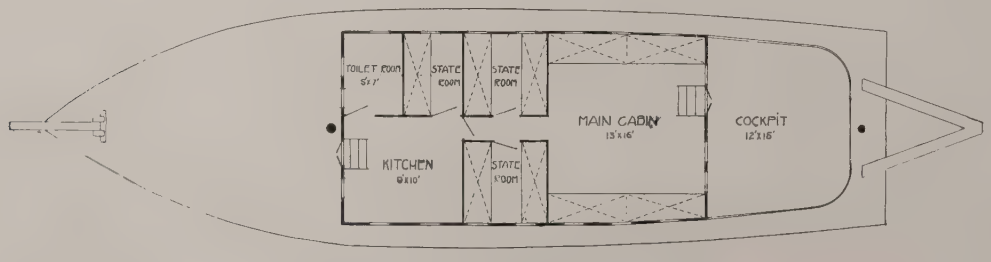
SOMMERHEIM.

Prior to the advent of Sommerheim it had not been new for sailing vessels to be provided with roomy quarters of the houseboat kind, but in all these craft the first idea was to build a sailing vessel, and next to plan a cabin and other conveniences adapted to the vessel; while in Sommerheim the subject

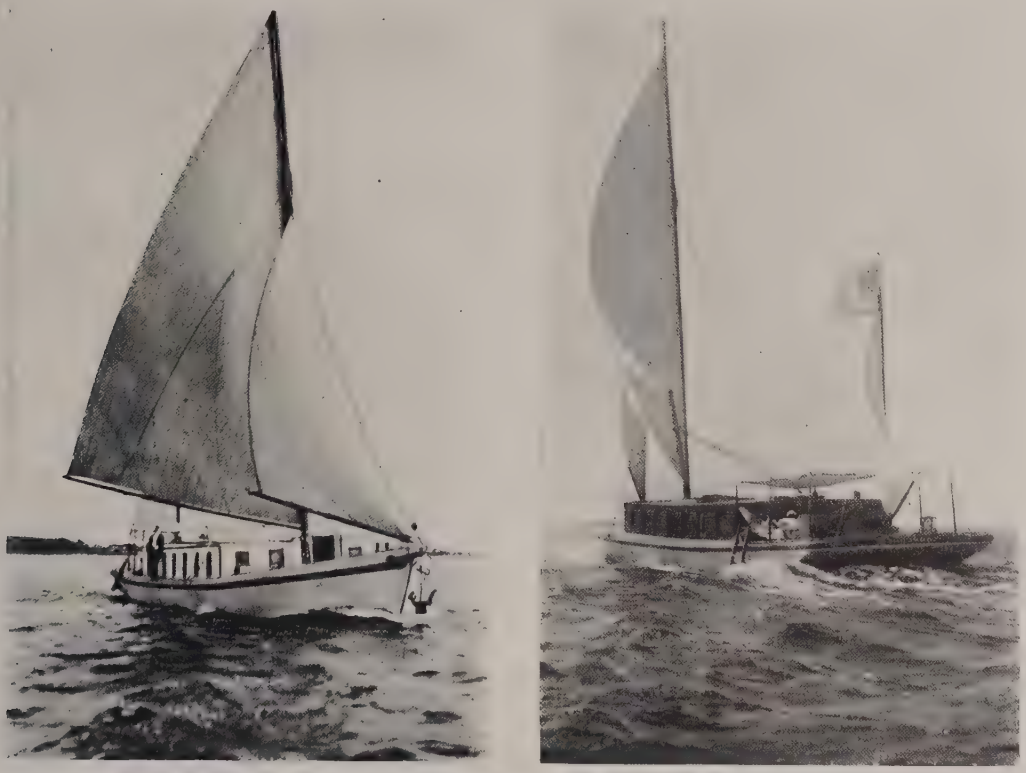
was approached from the houseboat end, and after the cabin had been planned, a vessel was designed to carry this cabin and lend itself in every respect to the conveniences and comforts which are desirable in a boat which is to be used as a summer home. Sommerheim was the result of this idea of building a hull to suit a cabin, and a description of her may be interesting.

First a few words in regard to the method of designing. It has already been stated that the cabin was the first subject to be considered. Referring to the plan view, the arrangement will be easily understood. The main cabin was made thirteen feet long to provide for two berths on each side. The two staterooms next forward must be six and one-half feet each in length athwart ship to provide for the berths, and, in order to make a suitable passage fore and aft between these rooms, it is necessary that the cabin, or house, shall be sixteen feet wide, and this determines the minimum beam of the middle section of the boat at the bottom. A roomy kitchen forward of the port stateroom makes the house long enough for a single stateroom for the cook and a light and airy toilet room on the starboard side, and the dimensions of the house are fixed at thirty-two feet in length and sixteen feet in width.

Having decided on the house, a hull must be designed to carry it. A flat-bottomed boat is the best adapted to shallow waters, and a scow stern makes a cheap construction and furnishes a roomy after deck. The breadth of the bottom amidship is fixed by the house at sixteen feet, and, inasmuch as an outside passage fore and aft on deck is desirable, the sides are given a flare of two feet each to provide such a passage, and the beam is thus fixed at twenty feet on deck. The length over all must be determined with a view to reasonably good lines for moving through the water, and the depth made sufficient to insure the necessary strength of the structure. In Sommerheim seventy feet was selected as a desirable length, with fifteen feet of deck aft of the house and twenty-three feet forward, and a depth of hull amidship of four feet. By placing the cabin floor on the floor frames of the boat, the head room may be made seven and one-half feet in the clear, without causing the house to rise above the main deck more than is necessary for desirable window room, and a house of this kind does not interfere with sails, nor seriously affect the windward sailing of the boat. The roomy bow may be used for water tank, ice-box, general storage, and quarters for the boy or man who constitutes the ship's crew. In Sommerheim a large water tank in the bow and another in the stern, having a capacity for two weeks' sup-



CABIN PLAN OF SAILING HOUSEBOAT SOMMERHEIM.



SOMMERHEIM ON THE GREAT SOUTH BAY.

ply, are piped to the kitchen, toilet room, and staterooms. A stationary ice-box with a two weeks' capacity makes it unnecessary to renew these supplies except at convenient intervals.

The after deck of Sommerheim, fifteen feet long by an average width of seventeen feet, contains a large cockpit in which the wheel is located. When riding at anchor the house protects this cockpit from the wind for those who are seated, but does not obstruct the view forward for those who are standing, and the man at the wheel has a clear view of the water in all directions. This cockpit is large enough for two hammocks and several steamer chairs without interfering with the handling of the boat. An awning covers this deck, and is set so that the sails clear it under all conditions. It is on this deck that the houseboat party spend most of the time, and in fine weather meals are served under this awning.

The interior arrangement of the several rooms of the cabin is clearly shown in the plan view. In the main cabin sliding curtains at each side shut off the berths from the center of the room, with space enough before the berths for convenient dressing. It will be seen that sleeping accommodations are provided for eight persons besides the cook. The berths are all single beds hinged at the back like the upper berths of sleeping cars, and underneath each berth is a full sized box for clothing. Hair mattresses on woven wire

springs make sleeping accommodations that do not suggest anything of the hardships that are often incident to life on the water, while wire screens in all the windows insure freedom from flies or mosquitoes, for it is very essential to a full enjoyment of this sort of life that petty annoyances and inconveniences be reduced to a minimum. If a person is spending but a few weeks on the water, he does not mind sleeping on a hard bed; but it is quite another thing if he plans to spend a whole summer afloat, and expects to go back to the same thing year after year with keen enjoyment. The general arrangement of Sommerheim will be recognized as a comfortable one, and in no respect has anything of comfort been sacrificed for the sake of adapting her to the use of sails.

In the matter of sails, simplicity of rig and convenience of handling were the first consideration. The yawl rig was selected for Sommerheim because it is more convenient to handle than either the sloop or schooner, and is surer in stays, a matter of some importance, particularly in shallow waters. The sails best adapted to this service are what is known as the "leg-o'-mutton" type, with its single halliard and without gaffs to hoist aloft. For the mainsail a jig attached to one end of the halliard provides for stretching the canvas after it has been hoisted with the single purchase end, thus making the hoisting of this large sail an operation that may be easily performed by a boy. The mainsail is sheeted to the after end of the cabin within reach of the man at the wheel, and the jib sheets lead to the cockpit, making the boat a "single-hander" and more comfortably so than the ordinary catboat. Three shallow keels and a small centerboard forward of the mainmast furnish the necessary lateral resistance for windward work. It must be remembered that Sommerheim is not a racing machine, and the center of effort of her sails is so low that there is never any question in a gale except as to the ability of the sails to survive, so that reefing is an unknown operation. It is true that this condition is only to be obtained by a sacrifice of possible speed in light airs, but when one has his house with him there is no need of great haste, and, as the breeze freshens and the yachts are busy tying reefs, the Sommerheim may be seen romping ahead at an ever-increasing speed, until, owing to her superior size, when the smaller craft get down to two or three reefs, she begins to show them a clean pair of heels. One of the accompanying pictures show Sommerheim in a breeze, and it is easy to believe that she is doing better than ten miles an hour. Even in these strong breezes she handles so easily that the houseboat family look upon her as a sort of family horse to be driven by anybody, and it is a fact that much of the sailing of this boat is done by the ladies of the party during the absence of the men, and with no other assistance than that rendered by the ship's boy, who hoists the sails and gets up the anchor; so that frequenters of Great South Bay have become accustomed to meet Sommerheim in fresh breezes with a smother of foam under her bow and a girl at the wheel, and with the prospective man on the forward deck the only representative of the sterner sex aboard.

This sort of thing would not be practicable except under certain conditions. It is of the utmost importance that the boat should be so

designed that constant alertness is not required to adapt the spread of canvas to the force of the wind and the carrying power of the boat, but, on the contrary, there should be nothing to do when under way but to steer and hum the refrain, "The harder it blows, the faster she goes." Then, too, the summer cruising should be limited to protected waters like the great bay on the south shore of Long Island, with its hundreds of square miles of shallow water swept by ocean breezes, and with good anchorage everywhere for a craft of this kind; so that it is only necessary, where the boats draw so little, to round up and let go the anchor at any time to be in a comfortable harbor.

Vessels of Sommerheim's type seem destined to grow in popularity, and particularly so because the pleasure to be derived from them is so large a return on the comparatively small first cost and the cost of keeping them in commission.

THE SAILING HOUSEBOAT WILLIAM F. MILLER.

POLLYWOG—THE FIRST DORYHOUSE.

BY CHARLES LEDYARD NORTON.

POLLY is a mere infant as yet—not three years old, in fact—but she and I have been knocking about the coast together during a good part of that time in amicable relationship legally authorized by a Government certificate of registration. She may not be dangerously beautiful in the sense affected by yachtsmen in general and naval architects in particular; but I boldly aver that she is good, and that is more than can be fairly claimed by many of her more or less distant maritime relations. Born on the beach at Provincetown, of good seafaring New England stock, she was at first regarded as something of a "freak" by old shellbacks along the waterside, but was ultimately classified as a Doryhouse for want of a better name; and after I had fitted her out with a suit of leg-o'-muttons and a jib, and had sailed her single-handed about the somewhat breezy harbor without coming to grief, sailormen offered to sign articles for a trip to the Banks or across the "Herring Pond," for that matter. Of course I put this down to good-natured flattery on their part; for never, even in moments of wildest elation, did I suspect her of deep-sea qualifications. Still, I confess that the expert verdict of these old sea-dogs was highly gratifying to me—a mere amateur—who had designed her without professional advice, and had borne no inconsiderable part in the actual joiner work of her construction.

POLLYWOG UNDER SAIL.

Without further prelude, then, I may say that for many years I had fondly cherished the dream of some time owning a craft that should serve the purpose at once of a house-boat and a cruiser; a boat that would be a seaside cottage if I chose to run her ashore upon a friendly sandbar, and would yet give a fairly good account of herself if caught in a moderate breeze o' wind. I built a three-foot model and sailed it in the heaviest weather afforded by a little fresh-water lake until I pretty well found out what she was good for.

The late Captain John G. Whitcomb, of Provincetown, a veteran builder of all sorts of sea-going craft, looked her over, said she would do, and agreed to build her "full size" (the "dory" part of her, that is), for a consideration not absolutely prohibitive. The upper works, interior fittings and rig I undertook to complete with my own

THROUGH A PORT HOLE.

hands and such professional and amateur help as I could call in from time to time.

She has now been in commission for two seasons. I have lived aboard alone and with guests, in fair weather and foul, and she fully meets my modest needs and expectations in all respects. Of course, with the very moderate sail power shown in the photo print reproduced herewith, she cannot be expected to distinguish herself as a record-breaker in respect to speed, but with a free wind she logs her six or eight knots, and in windward work she does better than some boats that I have seen, taking the sea easily, and never missing stays except through the carelessness of her sailing master.

Once upon a time when I had some guests aboard, a young lady expressed a wish to make sail and get under way all her own self, except for getting the anchor, which was obviously too much for her strength. As the conditions were favorable, I had no objections; so she loosed and set all sail, and worked several miles to windward, no one else so much as touching a rope. Of course there was just the right sort of a breeze, and a smooth sea, and nothing went wrong; but for a girl to do all that with a ship forty-five feet long, fourteen wide, and nineteen tons register, is quite a creditable exploit.

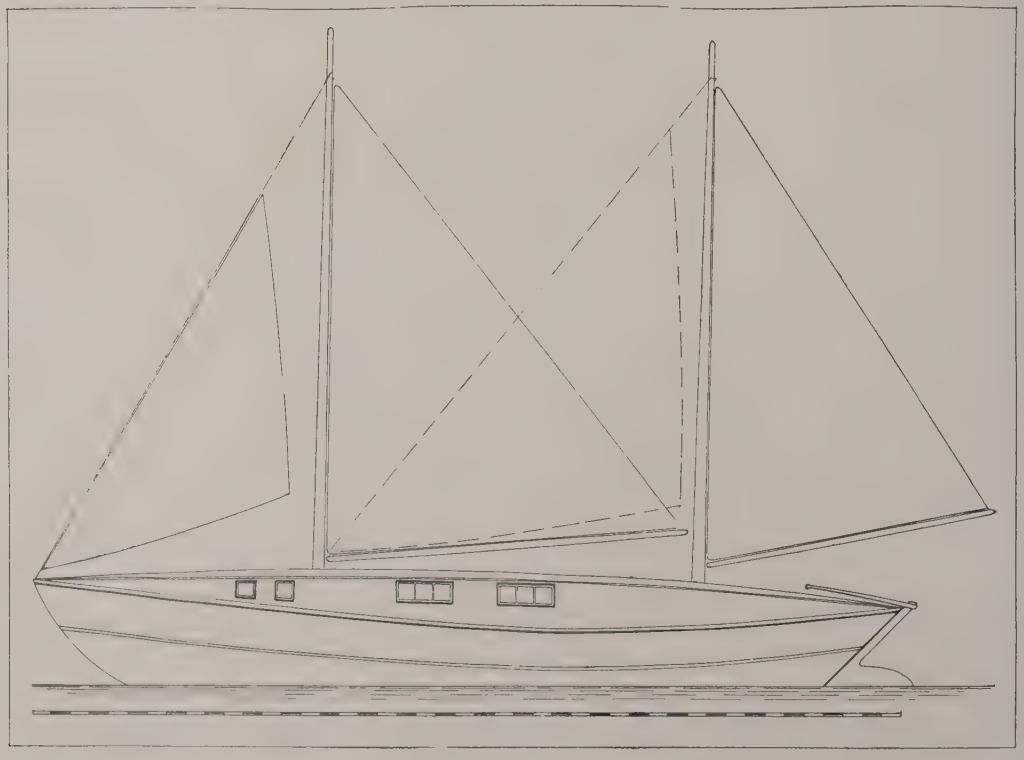
Another photo print, taken from a bluff, gives some notion of Polly's deck and cockpit. She was undergoing some refitting at the time, and does not look her best; but, as I have before remarked, we don't brag very much about our looks. The deck, as may be seen, is practically clear and flush from the mainmast forward to the very nose of her. There is no rail because it is in the way, and people who can't hold on with their eye-lids are expected to stay below. When really required, however, a life-line can be rigged between the stays at a suitable height above the deck. All sheets and halliards lead aft into the cockpit; and under all ordinary conditions everything can be perfectly managed from there. An anchor is habitually carried over the quarter, with its "road" leading outside the rigging and made fast for'ard, so that it can be instantly let go by the helmsman in case of

OUT OF COMMISSION.

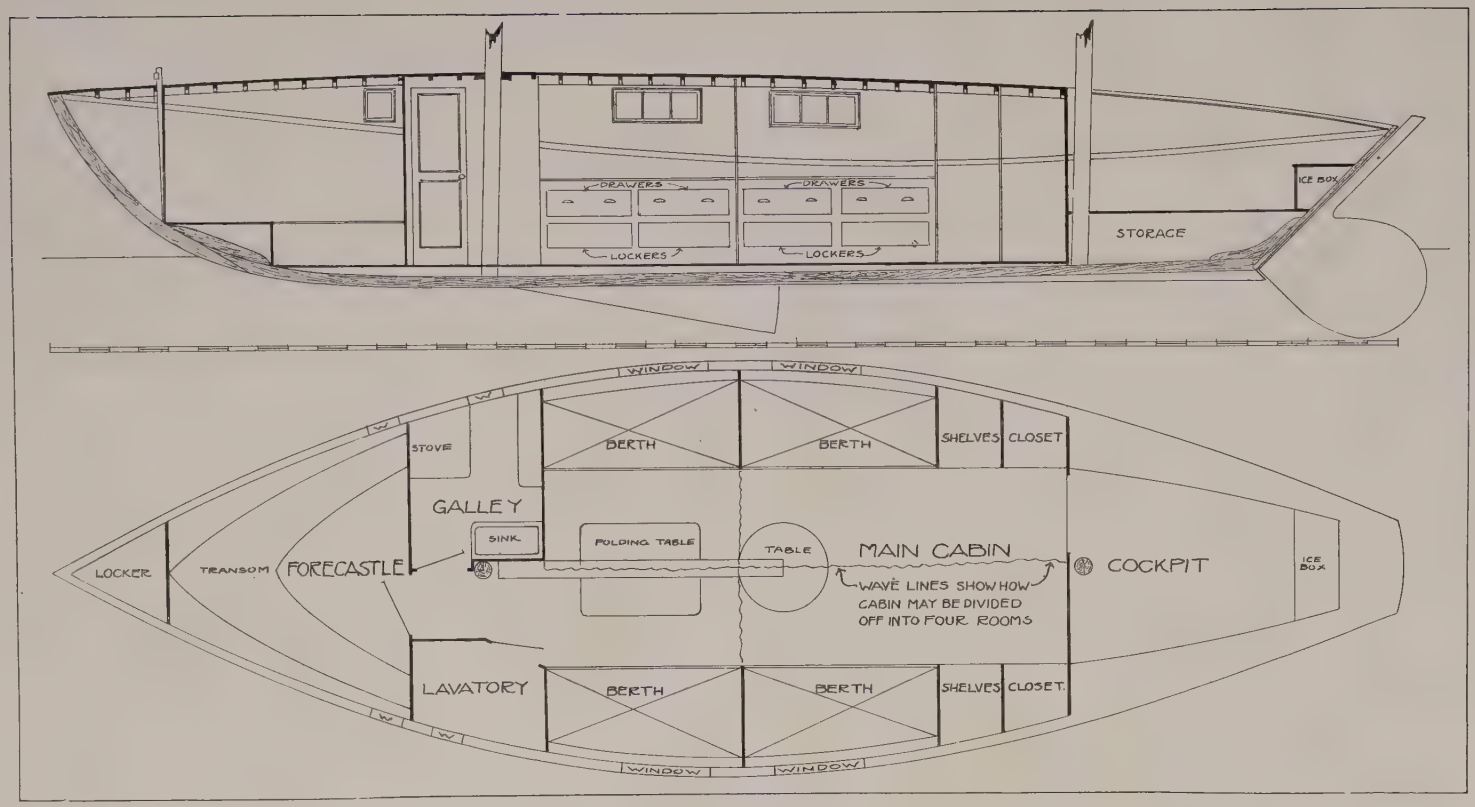
need. All rigging is of the simplest. The rudder drops well below the keel, increasing lateral resistance and weatherliness, and is hung like a dory rudder, so that it will lift on striking an obstruction. Once or twice Polly has gone upon a lee shore in such fashion that I thought that rudder was surely done for; but it slid up out of harm's way, and was ready for duty without further formality when next called upon.

From deck to cockpit, descent is easy by a short stepladder. Here are transom seats wide enough for bunks, and room enough for a sizable party to make themselves comfortable, sheltered partly by permanent coaming planks and partly by an awning overhead. Spray from over-strenuous seas has never yet disturbed the serenity of the cockpit. When it does, the ladder will be lowered and all hands ordered to wade ashore—the captain last.

The cockpit floor, or "quarter deck," as it is affectionately termed in doryhouse dialect, is some two feet higher than the cabin floor, and well above the waterline, so that it readily sheds rain water outboard through scuppers. In the cabin are four fixed bunks, quite as comfortable as those in an ocean liner. Under each of these are two big drawers and lockers for all sorts of storage. There are three hanging clothes lockers besides a lavatory and galley, and the main cabin can be divided by sliding curtains into four separate rooms, each with its berth and outside port, which can be opened and closed at will, and which, by the way, can be kept open even



POLLYWOG—SAIL PLAN.



POLLYWOG—CABIN PLAN AND INBOARD PROFILE.

when there is a good bit of a sea on. For'ard of galley and lavatory is a big forecastle with two folding bunks and storage space for sails, cordage, etc. Access to this can be had through a hatch, as well as through the cabin. Besides this there is other storage room under the quarter deck aforesaid.

But I am overrunning my reckoning, though I have by no means exhausted the list of my Polly's virtues. I do not claim perfection for her. In the matter of construction there are one or two points that might be improved, but upon the whole she quite fulfils my expectations.

Just now I have reason to believe that she is coquettishly making eyes at a "power dory," there is no telling what may happen. I can't blame her for wanting some one to take her in tow upon occasion and run of errands at all times. She will do as she likes, I suppose—they generally do—and I will try and be content so long as she does not insist upon installing a motor in the cabin or on the quarter deck.

THE SAILING HOUSEBOAT SAVANILLA.

OWNED BY JOHN PRICE WETHERILL.

OF all the sailing houseboats, none is more interesting than Savanilla, and the accompanying plans give an excellent idea of her design, construction, rig and interior arrangement.

Savanilla was designed for Mr. John Price Wetherill, of Philadelphia, Pa., by Commodore R. M. Munroe, of Cocoanut Grove, Florida, and was built in 1903 at Greenwich Piers, New Jersey, by the Greenwich Piers Marine Railway Company.

She is intended for inland cruising in the shallow waters of Florida, and she draws only two feet six inches of water with the centerboards up. The rig is that of a topsail schooner, and has been found to be satisfactory in every respect. Only one change was made in the rig, the substituting of a square topsail for the triangular one shown on the sail plan. Savanilla handles well and has shown a very fair turn of speed. The owner objected to having any motive power in the boat herself, but she is not dependent on her sail power alone, for she has a tender, the forty-seven-foot launch Columbia, which is fitted with a ten horsepower gasolene motor. Columbia has proven a very useful adjunct to Savanilla, for she is used in many ways. It would be manifestly impossible to sail Savanilla through the narrow inland channels and canals, and Columbia is used to tow the larger boat when such places are encountered. Should the wind fail at any time, Columbia can also tow her back to her moorings. Then again she can go for the mails, get supplies, and take the owner and guests back and forth to the mainland. Columbia is sufficiently large, and has enough power to tow Savanilla at good speed against a head wind or tide. All tenders, to be of real all-around use, should combine the qualities which enter into this boat's design.

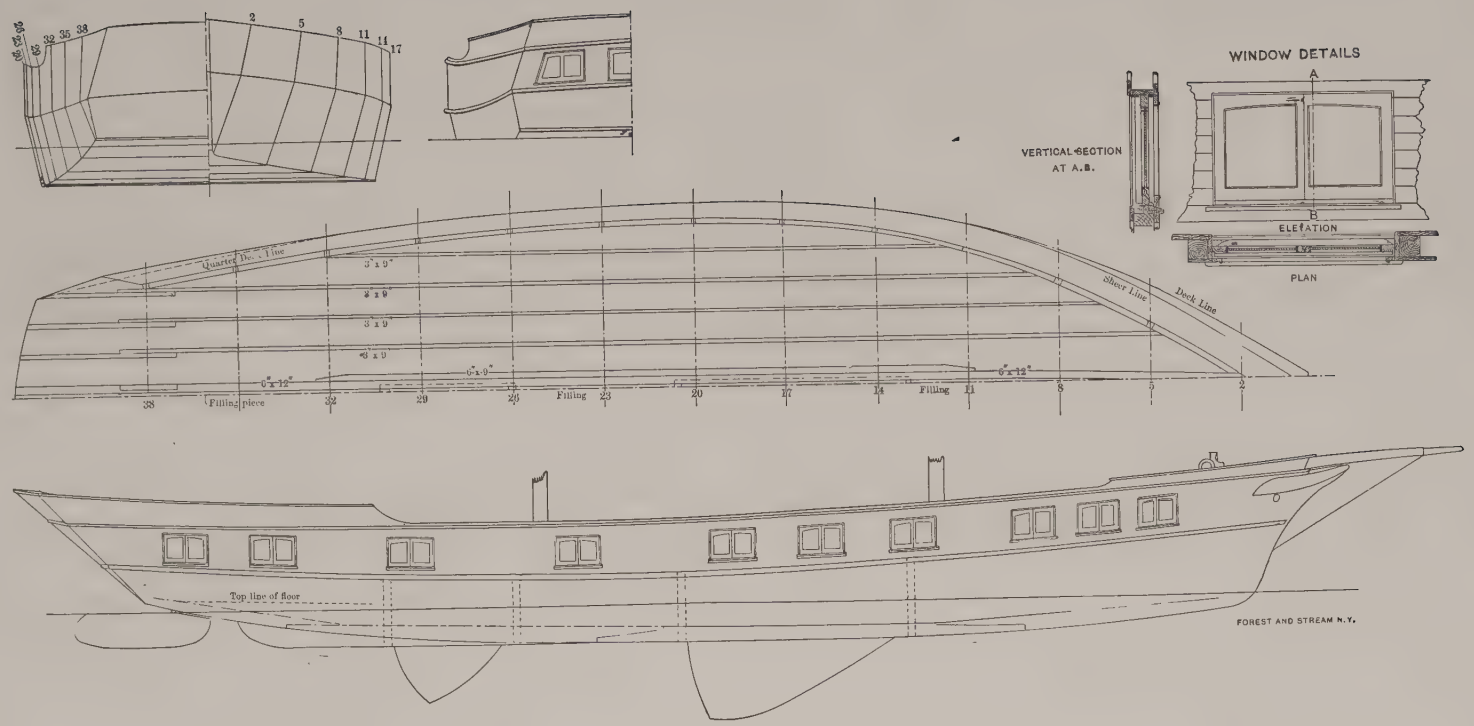
Although Savanilla is seventy feet in length, her design is really nothing more than a huge sharpie, adapted to the requirements of a vessel of her size and dimensions. The floor is absolutely flat, while the sides have a little flare until they reach the chime and then continue up in an almost perpendicular line. Commodore Munroe has worked out the design admirably, for the boat is most successful in every respect and presents a very shippy appearance. While intended solely for inland cruising, she has already encountered some very bad weather and acquitted herself remarkably well. On the trip south she went outside from Beaufort to Charleston, very heavy weather being experienced on the run, but she came through without damage. Being flat-bottomed, she pounded considerably in the vicious sea, but other than that she went very comfortably. Heavy wooden frames, fitted with regular port-holes, are substituted for the glass windows when an outside passage is to be made or bad weather is met with, so all danger on that score is eliminated. Savanilla is equipped with a skag aft, and two centerboards, one aft and

one amidships—these help her steering qualities and give sufficient lateral plane to turn out to windward in good shape.

A gangway on the starboard side amidships leads to the main deck. This deck, like the raised poop aft, is cut up by a number of hatches. These hatches are placed over all the important rooms below decks, and were found indispensable in order to ventilate the cabins properly when the boat was used in hot climates. As a matter of fact they have not proved in the least objectionable. On the contrary, they have been found to be useful and convenient lounging places for those on deck.

A companionway close to the gangway

SAVANILLA.

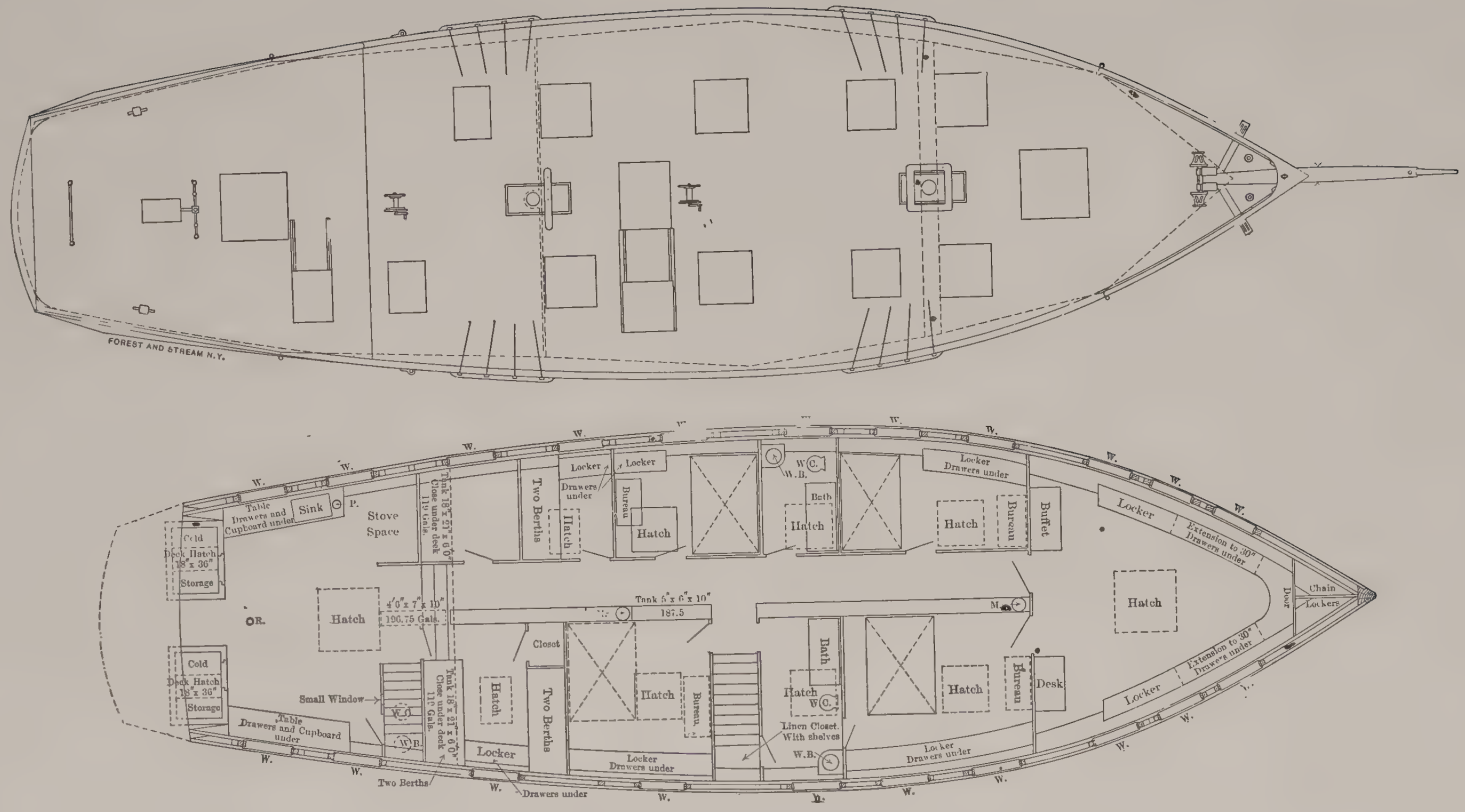


SAVANILLA—MIDSHIP SECTION, HALF BREADTH AND SHEER PLAN.

SAVANILLA—SAIL PLAN.

leads to a steerage which, in turn, opens into a passageway that extends almost the entire length of the vessel. The centerboard trunks practically cut the boat in two, in so far as the interior is concerned. A door at the after side of the steerage opens into a stateroom ten feet square, while opposite is an unusually large and completely fitted bathroom. The stateroom contains a double bed, a bureau, chairs, etc. A lounge runs along the side of the vessel, under which there are lockers. Overhead is a large hatch, and a window affords a pleasant outlook, as well as necessary air. In the bathroom, which measures five feet by ten feet six inches, there is a tub, closet and set marble basin, and a linen locker is located under the companion stairs.

Following the passage forward, one reaches the main cabin, which occupies all the bow of the boat. This room, which is triangular in shape, is nineteen feet wide at the after end, and comes almost to a point forward. It is a most attractive apartment, and its location insures the best possible air and view. On each side the hull is pierced by three windows, and under these are wide transoms, which are ordinarily used for sitting or lounging, but in case of an emergency, can be readily turned into comfortable berths, as they are made to extend. Placed against the after bulkhead on the port side is the buffet,



SAVANILLA—DECK AND CABIN PLANS.

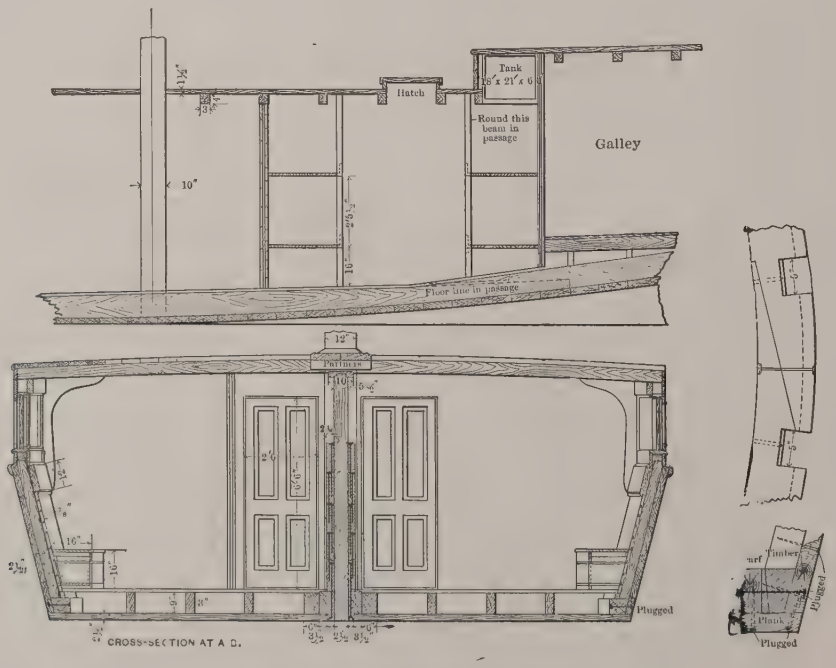
while in the corresponding place on the starboard side is a writing desk. A large dining table and a number of comfortable chairs complete the furniture in the cabin.

Corresponding with the door leading to the passage is another one on the starboard side of the centerboard trunk that gives access to the owner's stateroom, ten feet by twelve feet. This is the largest sleeping cabin on the ship, and is a very completely fitted and well arranged room. Here is also found a double bed, and the usual bureau, lounge, chairs, etc. A door leads directly to the bathroom. Besides the overhead hatch, there are two windows in this cabin.

On the port side of the passage there are two more staterooms, which are separated by a bathroom. The forward room is seven feet wide by twelve feet long, and, like the owner's room opposite, has two windows and is fitted up very much the same, only on a slightly smaller scale, this being necessary, as the cabin was not so large. The bath is five feet by seven feet, and has a tub, closet and set basin. The other stateroom is seven feet by ten feet and is arranged very much like the others.

Aft of this cabin is a smaller room, six feet by seven feet, which is occupied by the cook and steward. Further aft is another room, six feet six inches by six feet, for the use of the crew.

Here the passageway ends, and three steps lead up to the galley, which occupies all of the after portion of the vessel. The galley is under the raised poop, and the floor level is higher in consequence, yet the same headroom is obtained. The galley is sixteen feet long and seventeen feet wide. On either side there are two windows, and there are three in



SAVANILLA—CONSTRUCTION DETAILS.

the stern, making seven all told. These, together with the overhead hatch, carry off all odors arising from the cooking. The stove is placed on the port side of the galley forward. In the corresponding place on the other side is the crew's companionway, under which is the crew's water closet and wash room. On the port side, placed against the side of the hull, are a table and the sink; opposite, on the starboard side, is another table with lockers and drawers underneath. In the after part of the galley on either side are two huge refrigerators, in which a large quantity of ice and perishable supplies can be stowed.

A door in the forward partition of the galley opens into another room used by the crew. It contains four berths and closets for the men's dunnage. This room is ten feet square.

Water tanks are provided with sufficient fall to enable the water to run in the different tubs and basins without pumping. The total capacity of the tanks is over six hundred and twenty gallons.

Savanilla is eighty-four feet six inches over all; seventy feet waterline; twenty-four feet extreme breadth; nineteen feet breadth at waterline; freeboard forward, eight feet; freeboard aft, seven feet eight inches; least freeboard, five feet three inches; draft, with boards up, two feet six inches; draft, with boards down, seven feet nine inches.

CLARINA.

THE SAILING HOUSEBOAT CLARINA.

OWNED BY CHARLES STEDMAN HANKS.

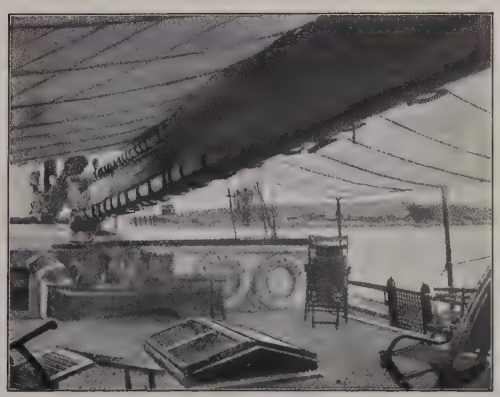
FOR several years past Mr. Charles Stedman Hanks and his family have made the sailing houseboat Clarina their home from early spring until late fall. Mr. Hanks first became interested in houseboats while spending a winter in Florida some years ago. There he had an opportunity to examine at his leisure the different kinds and types of craft used as floating homes; and after being thoroughly impressed with the great amount of comfort and pleasure to be derived from houseboating, he started to secure a boat that would answer his requirements. After giving the matter due thought and consideration, Mr. Hanks decided that a houseboat propelled by sail would best meet his needs. That Mr. Hanks should have decided on a sailing houseboat was only natural, for he is an old yachtsman, and his ideas of what a home afloat should be were clearly defined.

Mr. Hanks determined that it would be more satisfactory and considerably cheaper to purchase some existing vessel, and reconstruct and refit her to conform to his own ideas, rather than to build a new one.

Owing to the size of his family, certain accommodations were necessary, and after determining what these were, the next move was to find a craft of sufficient size to fulfill the requirements in the matter of room. Substantial construction and seagoing qualities were other important features that had to be considered, and it was therefore not an easy task to find a vessel that would answer in all respects.

Much time was spent in the effort to find the most suitable craft, and after repeated disappointments the old coasting schooner William Butman was selected as being a most desirable vessel, and one which met in every particular the owner's requirements. The William Butman was built at Searsport, Maine, in the early sixties, and is of the type of schooner that is seldom seen to-day, and the few now in existence are fast disappearing.

The William Butman was of heavy oak construction, and even after the thirty-five years of constant use and hard buffeting, was sound as a nut. She is eighty-seven feet on the waterline and twenty-four feet breadth. As soon as the vessel was purchased, she was brought to Gloucester, and there she was placed alongside a lumber wharf, where material would be handy and the car-



THE QUARTER DECK.

penters and joiners could work to better advantage.

An architect had made plans carrying out the new owner's ideas for the cabin arrangements, and workmen were put aboard in 1900 and the work of conversion begun.

It was decided to put the galley, pantry, crew's and officers' quarters together on the lower deck; and in order to utilize the hold for that purpose, fifteen deadlights were placed in the hull on each side one foot above the waterline. In this way it was possible to ventilate and make these quarters light and dry.

A superstructure was built on the main deck, and it is here that the main saloon and the owner's quarters are located. The vessel's high rail made it possible to add the deck house without making her topheavy or giving her an unsightly appearance; on the contrary, it gives the vessel a decidedly home-like and comfortable look.

Clarina, by which name she is now known, is so well arranged and has proven such a livable craft that some description of her arrangement may prove interesting and suggestive.

In the old vessel the main cabin, the captain's room and the galley were in the extreme after end of the vessel, and a low house extended over these quarters. This house was allowed to remain undisturbed, but the old partitions were removed and the small rooms were thrown into one large apartment, which is now used as the dining room. This room is nineteen feet long and fourteen feet six inches wide, and was paneled and then painted ebony black. The windows in the house and the stern ports, in addition to a skylight, make the room bright and airy. On the starboard side there is a transom, also a wine locker and a Franklin grate, while opposite is the sideboard and another transom. Extending across the after end is a transom, and anyone sitting there is afforded a delightful view through the quaint stern ports. The dining room is reached from the main cabin by three easy steps. A staircase from the dining room to the butler's pantry below makes the work of the steward easy, and permits the meals to be served hot and with dispatch.

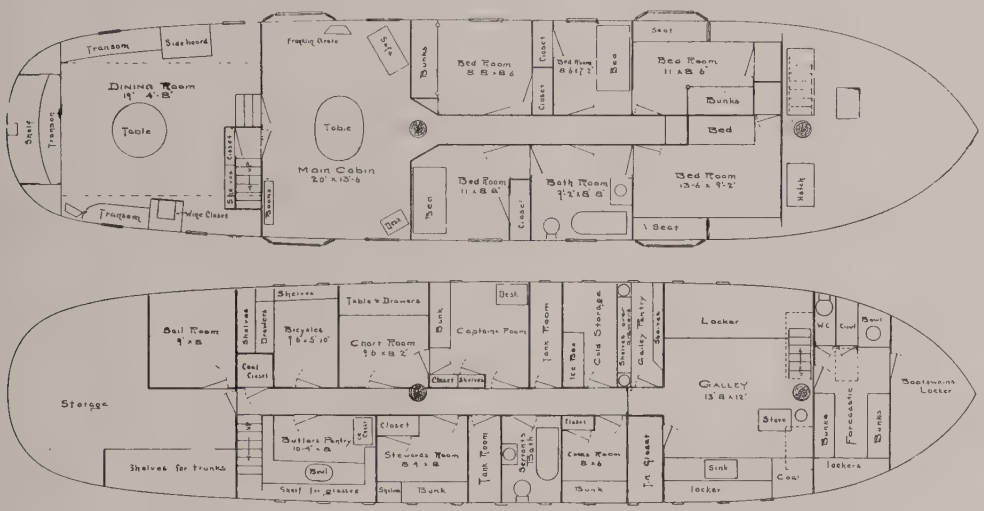
The main saloon is in the after end of the new structure. This is the living room of the vessel, and is twenty feet wide and thirteen feet six inches long. The walls are paneled in whitewood, which was stained a rich walnut color. In each side of the house is a single window and a flat bay; overhead is a skylight, the result being ample light and good ventilation. In the center of the room, under the skylight, is a large table, and distributed about, in addition to many comfortable chairs, are bookcases, desks and lounges. Here is also found another Franklin grate to afford plenty of heat and comfort in prolonged bad or foggy weather.

A passage leading forward gives access to the five bedrooms and the bath. The woodwork of the passage, the bath, and the bedrooms is all painted ivory white; the latter, however, are paneled up to a height of four feet, and above the walls are covered with cretonne. The ceilings are also paneled and painted. On the port side of the passage is a bedroom eight feet six inches square. At the after end are two bunks, one above the other, and at the forward end is a roomy

built-in closet for clothes. Opposite this bedroom to starboard is another room slightly larger—eight feet six inches by eleven feet—which is fitted with an iron bedstead and a large clothes-press. Both these rooms are lighted by windows, a door from the starboard room leading to the luxurious bath nine feet by eight feet six inches, which is finished like the chambers and fitted with the most modern open plumbing. Across the passage from the bath is a small bedroom seven feet eight inches by eight feet six inches, which can be used by a maid or governess. This room, like the bath, is ventilated by a large window. The forward part of the cabin house is occupied by the bedrooms of large size, the one on the starboard side being thirteen feet six inches by nine feet two inches, and the other is eleven feet by eight feet six inches. In each room there is a flat bay window like those that pierce the walls of the main cabin. A window seat set into each of the bays makes a delightfully cool lounging place. The starboard room has direct connection with the bath. There is an iron bed in each of the bedrooms, and roomy closets afford ample storage space for clothes. This completes the living and sleeping quarters of the owner.

The staircase from the dining room leads to the passageway below that extends the greater part of the vessel's length. On the starboard hand, and almost directly at the foot of the staircase, is the butler's pantry, ten feet four inches by eight feet. Here are shelves for glass and china, a small ice-box, and the sink with draining trays and running water; in fact, everything that one could expect to find in any well-appointed establishment. In the pantry there are three portholes for light and air. At the foot of the staircase is a large clothes closet. Adjoining is the bicycle room, nine feet six inches by five feet ten inches, with room for storing five or six machines.

Forward on the port hand is the chart



CLARINA—CABIN PLANS.

room, nine feet six inches by eight feet two inches, with a wide chart table and chest of drawers for filing. Connected with the chart room by a door is the captain's room, nine feet six inches square. A wide bunk, a desk, chairs and clothes-presses complete the fittings here. Forward of the captain's room is the tank room, and forward of that is the cold storage room, where enough food can be carried to make those on board independent of shore supplies for a long period.

On the starboard side forward of the butler's pantry is the steward's room, eight feet four inches by eight feet, and then comes a tank room the same size as the one on the port side. Next forward is the servants' bath, and then the cook's room. Forward of these quarters, and extending the full width of the boat, is the galley and its offices. The galley is twelve feet by thirteen feet eight inches. This is unusually large, and in consequence the work is simplified and lightened. Aft of the galley on the port side is the pantry, and occupying a similar amount of space on the starboard side is a closet in which are stowed pots, pans and other kitchen utensils. On each side of the galley are three deadlights, and at the forward end are two hatches, one serving as a ventilator and the other as a companionway. The galley is painted white, and it is altogether a clean and attractive place. The cooking is done on a regulation coal stove. On the starboard side are the coal bin, the sink and lockers, while on the port side are table and more lockers.

Well up in Clarina's blunt bow, and forward of the galley, is the forecastle, where there are comfortable accommodations for four men. There are roomy lockers for the crew's dunnage, and they have their own watercloset and wash basin. Leading out of the forecastle is a large locker used for keeping boatswain's stores.

THE DINING ROOM.

THE MAIN CABIN.

In the steerage there is a large sail room, eight feet by nine feet, and also shelves for storing trunks and other luggage.

In addition to the captain, steward and cook, four sailors are carried.

The added deckhouse was built up four feet above the rail, which was three feet high,

A BEDROOM.

A BATHROOM.

and this gave nearly seven feet head room. The building of this house necessitated cutting one foot off the foresail and lifting the main boom eighteen inches, which did not reduce the sail area.

Hot and cold water is to be had in all parts of Clarina, which is made possible by placing a tank in the top of one of the bedroom closets in order to get sufficient pressure and connection with the hot water boiler in the galley.

The roof of the old cabin house is used as a lounging place, and numerous steamer and arm chairs, together with cushions and pillows, afford every comfort. The added cabin house is only three feet higher than the old, so that it does not shut off any cool breezes while the boat is at anchor lying head-on to the wind.

In order to avoid the annoyance of having the smoke from the galley stove-pipe, a funnel was run out on each side of the fore rigging. In each side there is a damper, and the leeward one is opened, and in that way the smoke is carried clear of the vessel.

Clarina is completely fitted with a system of electric buttons, so that servants or crew can be called from any part of the ship.

Three boats are carried on davits, one of which is used by the steward and crew, a second serves as a gig, and the third is a sailing tender.

THE PANTRY.

THE GALLEY.

STEAM POWER FOR HOUSEBOATS.

BY EDWARD P. FIELD, ASSOCIATE S. N. A. M. E.

DURING the last few years houseboating has become to the yachtsmen of America, only if anything on a more elaborate scale, what for many years it has been to our English cousins, whose houseboats have dotted the river Thames and added by their picturesque assemblage such an appropriate background to the many Henley regattas and other aquatic meetings for which that river is famous the world over.

Houseboats, as the name is commonly applied in our country to-day, can pertain to almost anything, from a raft half aground with a house erected on it containing possibly one large room, to the beautifully equipped and spaciously appointed vessels capable of accompanying a yacht club squadron cruise and finishing well up with the best of the ten-knot yachts.

As houseboats are constructed primarily for the pleasure and comfort of the owner and his family, it of course lies entirely with the owner to which extreme he wishes to go, and incidentally the amount of money he is willing to invest. Few people will deny the advantages for entertainment, either simply or in an elaborate manner, over the orthodox steam yacht with its large allotment of space necessitated by high power propelling machinery and moderate beam, of the houseboat; with its full beamy lines and small power, giving, as it does, a maximum accommodation for owner and guests and the minimum allotment to machinery space. And now comes the all-important question as to the kind of power to install in a self-propelled houseboat—steam or gasolene. Many writers advocate gasolene for all sizes and powers, while others adhere strictly to the reciprocating steam engine as the proper propulsive power to be adopted. It is the writer's opinion the best results are to be obtained by effecting a compromise; that is to say, for houseboats intended to operate fairly close to the home base and of not over ninety feet perpendiculars, gasolene; while for the larger boats intended for longer cruises or more deep water work, steam will be found the more desirable of the two. The reason for this is that in the smaller boats there will be fewer auxiliaries installed and also a smaller crew carried, while in the larger vessels you usually find a more elaborate outfit as regards electric light plant, sanitary and fire pumps, etc., and for Florida or warm climate locations an ice machine. With the larger number of auxiliaries it is a simpler installation where steam is the power. On the larger vessels also the matter of insurance will be found more easily adjusted and better rates secured where steam is the propulsive power, as the insurance agents seem to have a holy fear of

the word gasolene, even at this time of perfected gasolene machinery.

Considerable discussion has arisen as to the best position in a houseboat for the machinery installation, many writers claiming that the engines should be well to the stern of the vessel, and in a gasolene boat the gasolene tanks carried at the extreme bow. In any installation of say over forty horsepower, the writer is against this arrangement, and has had the opportunity of studying its bad effects, inasmuch that the weight being at the extreme ends of the ship tends in the light draft models—such as are usually employed in houseboat work—to cause the vessel to hog badly, thereby ruining her outward appearance by distorting the contour of the sheer, and weakening the vessel structurally, requiring in some cases of the writer's personal knowledge the addition of unsightly hog frames, materially detracting from the vessel's appearance, and ruining her as far as a merchantable asset is concerned. Where the vessels are to be of extremly light draft, say three feet or under, it has been the best practice of late years to apply what is generally called the Thorneycroft principle of tunnel stern; that is to say, hollowing out the vessel's underbody at a point where the propellers are to be located, thereby creating an aperture, so to speak, in which the propeller is submerged to a point which comes in a properly designed tunnel, above the actual load waterline of the ship, thus obviating the necessity of installing the engines with the shaft at a large angle of inclination as compared to the load waterline, doing away thereby with the corresponding loss of power unavoidable in such instances, and gaining an additionally larger diameter for the wheel.

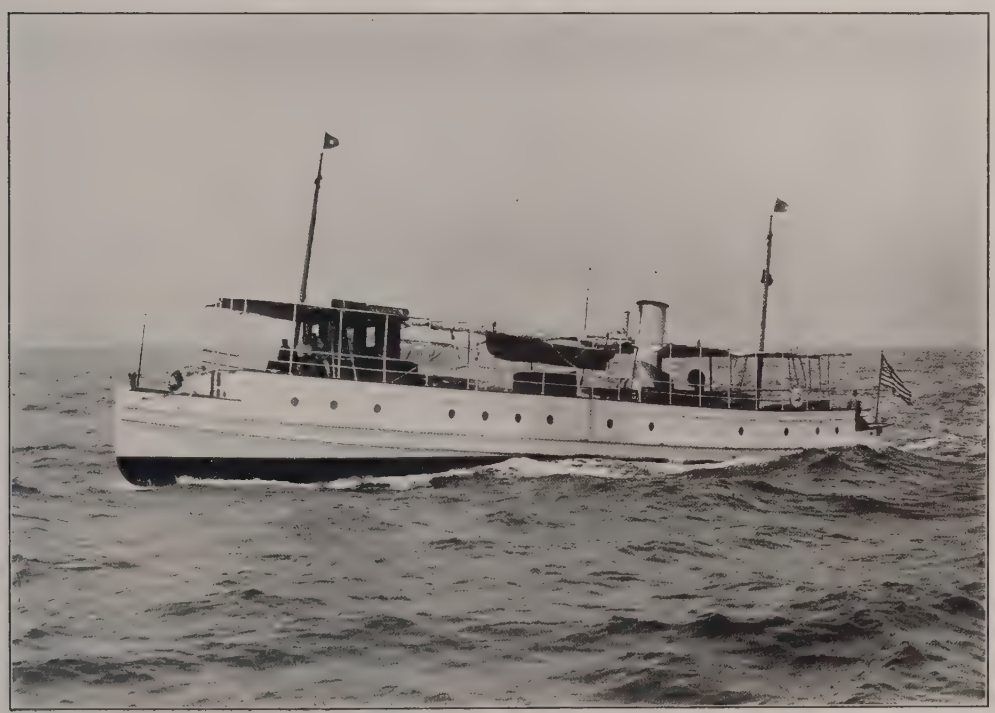
THE STEAM HOUSEBOAT PIONEER.

THE STEAM HOUSEBOAT THETIS.

THE STEAM HOUSEBOAT ROSALIE.

To do away with the possibility of hogging and other unnecessary structural strains, the best position for the machinery either in a gasolene or steam installation is as near the center of the ship as possible; and in the case of gasolene, storing the fuel supply in cylindrical tanks under the cabin floor, which, with a properly designed piping arrangement, is no more dangerous than when carried in a tank at the forward end, and has been allowed a very fair rate of insurance by the underwriters, which fact was established in the case of one of the recent vessels with whose design the writer was connected. The placing of the machinery amidships in this manner undoubtedly prolongs the life of the boat, and a careful consideration of the subject will surely result in its advantages being recognized.

With further reference to the writer's remarks as to position of weights, etc., referring to the structural requirements in a properly designed hull, it seems that the designers of a large number of the houseboats in the past seem to have been totally oblivious to the fact that a housebout should be, and is, if properly designed, just as much of a ship, so to speak, as any other type of vessel, and there seems to have been a glaring disregard of the fundamental principles of construction in this regard. People in general seem to look on a houseboat as a mere raft, built to supply the owner with a certain amount of accommodation, and no provision seems to



THE STEAM HOUSEBOAT ALAMEDA.

THE STEAM HOUSEBOAT AUNT POLLY.

have been made for the absorption of the strains and stresses that naturally affect any floating structure. The cabin plan seems to have been the first thing designed, and then the machinery and other heavy weights seem to have been thrown in anywhere on the plan where a little excess space had been discovered. There is absolutely no excuse for this, as any competent designer should be able to satisfy the requirements of the owner as to the amount of accommodation required, taking care at the same time of the proper installation of the machinery and the structural strength of the hull as a whole. The orthodox type of houseboat is such a full-lined, beamy creation, that with a little careful thought ample provision can easily be made for all the essential points of the design. Cases are continually arising where boats designed in this thoughtless manner have had to be braced and strengthened at great cost after two or three years' use to offset this evil, and it is perfectly surprising the damage that a boat will do to herself or have done to her where these rudimentary principles of engineering seem to have been overlooked.

Another point in which a good many owners have been sorely disappointed is the draft of their boats when finished and finally turned over to them. As houseboats are with few exceptions designed for very shallow draft work, too much care cannot be exercised in the design and construction to develop a boat that will come within the maximum amount of draft allowed by the waters of the locality in which the boat is to be used. The writer could never understand why the same principle of guarantee is not exacted by the owner from his designer as from his builder; that is to say, why the designer should not be required to guarantee the draft and speed of the boat he is commissioned to design, in the same manner as the contractor is required to guarantee the delivery of the vessel within a certain time, and the mechanical perfection of his work. Of course the general plea is that it is usually impossible for the designer to be certain that the builder will construct the vessel—particularly as to

weights and sizes—exactly as called for in the specifications as submitted by the designer; and this is true where the owner interferes at all between his designer and builder during the progress of the work; but in a commission wherein the designer is allowed to name absolutely the power to be installed and has sole authority to reject and condemn any work which, during his inspection, may be found to vary in the slightest degree from the requirements as called for in the specifications, it seems to the writer that there can be no possible objection made by the designer—if he is confident of his ability to produce a vessel meeting the owner's requirements—to guarantee the performance of his work. As a safeguard for himself, the owner should require some guarantee that the vessel will be, when finished and delivered to him, exactly a reproduction of the plans and promises as made by his designer when the prints and specifications were finally submitted for his approval. In this way all difficulties and misunderstandings are avoided.

LOUDOUN.

DESIGNED, BUILT AND OWNED BY LEWIS NIXON.

PROBABLY very few of the many house-boats in existence to-day have been designed by naval constructors of well-known reputation. Loudoun is one of these few, for she is the production of Mr. Lewis Nixon, the designer of the U. S. battleships Oregon and Indiana. Mr. Nixon designed Loudoun for his own use, and she was built at the Crescent Shipyard, Elizabethport, N. J., in 1899.

Loudoun cost $50,000 to build, and costs a thousand dollars a month to keep up. She has a steel hull, wooden topsides, and is one hundred and thirty feet long over all. She is equipped with a single screw and triple expansion engines, and can travel at a speed of twelve knots an hour.

The great feature of Loudoun is her one hundred and ten feet of uninterrupted deck. This is the real living room of the family. An awning lined with dark blue cloth protects from the sun and from the glare of the water. The floor is covered with rugs, and everywhere are lounges and easy chairs, luxurious with cushions and draperies. Tables piled with magazines and books, flowers and palms lend a home-like and most comfortable aspect to the deck. Loudoun carries a master, a chief engineer, two firemen, two sailors, a chef, mess boy, and two Japanese stewards.

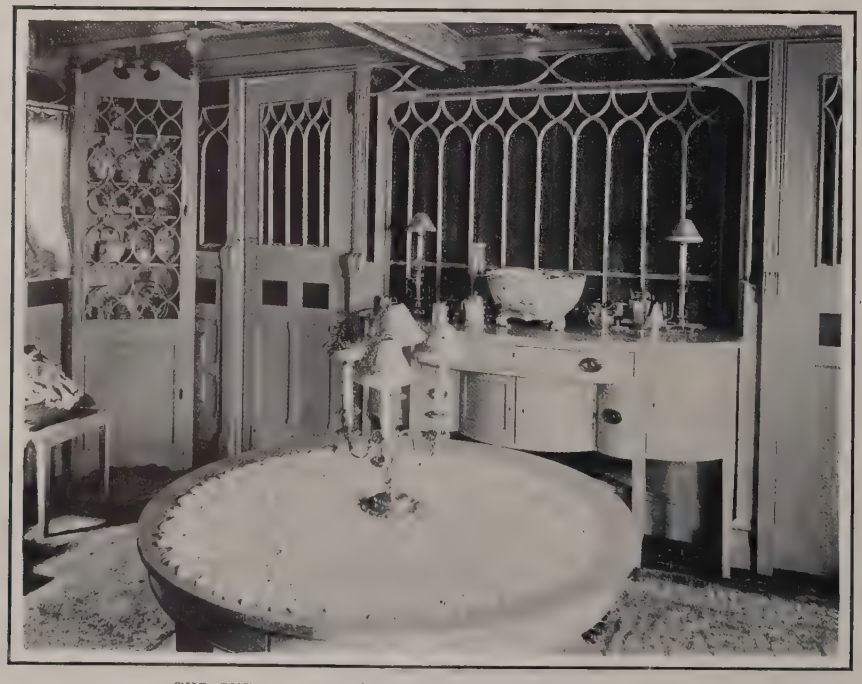
A wide staircase, softly carpeted, leads below into the drawing room. This and all the rooms are well provided with windows; not

THE DRAWING ROOM.

LOUDOUN.

MR. AND MRS. NIXON AND THEIR SON ON THE DECK OF LOUDOUN.

THE DINING ROOM, SHOWING FIREPLACE.



THE DINING ROOM, SHOWING BUFFET AND CHINA CLOSET.

port-holes, but large windows, with sliding sashes. White enamel furniture, chintz walls, and draperies, hardwood floors, with rugs, prevail throughout. The dining-room is the largest and the most beautiful room of all. The walls are in rich blue burlaps, wainscoted to a height of about four feet, and finished in white enamel. Near the top the wainscoting is broken to show little panels of the blue wall, an effective device. The white wood is used above in a lattice. A blue and white rug covers the floor, and all the hangings are blue. The round table, the sideboard, chairs, and the graceful little corner cupboards fitted with rare blue china are in white enamel. There is a large pantry connecting, and in it are large refrigerators, which divide the pantry and the engine room and kitchen, thus shutting all heat away from the living rooms. The kitchen, the crew's quarters and the engine room are aft. The bedrooms are forward, and are approached through a long hallway. They are finished in the softest and coolest tints of green, blue and yellow, with white beds. In the bathrooms, both salt and fresh water are provided.

THE HALLWAY, FROM WHICH THE BEDROOMS OPEN.

CORNER OF DRAWING ROOM, SHOWING STAIRWAY TO DECK.

AUNT POLLY.

OWNED BY WILLIAM GILLETTE.

FOR forty weeks out of every year the actor leads a strenuous life, and when summer comes, bringing with it the three months of vacation, it is imperative that the time be given over to absolute retirement and rest.

Mr. William Gillette, like other prominent professional people, sought for a long time to find a really ideal and practical way to get a much needed change during the summer holidays. A constant change of scene was essential, and being a good sailor and a lover of outdoor life, the idea of living on the water suggested itself. How best to accomplish this was a question, and after considering various kinds of steam and sail yachts the houseboat was finally settled upon as the really ideal way to spend a holiday afloat. Power was considered necessary as a change of scene was desired, and as the boat was to be of good size steam was thought the most desirable means of propulsion on account of its reliability, and in addition the boat could be heated and lighted without complications.

Mr. Gillette needed certain accommodations, and his requirements regulated the size of the boat. Absolute comfort was the important factor, and after the interior arrangements had been laid out that met with his ideas, a substantial hull of moderate draft was built around them.

The long, white hull of Aunt Polly has become well known to yachtsmen along the Sound and in Narragansett and Buzzard's Bay, for her owner cruises extensively. Everything about the craft suggests real comfort and ease.

Mr. Gillette does but little entertaining on Aunt Polly, in fact that is one of the things he wished to escape by owning such a craft, and in consequence little space was devoted to guests' quarters when the interior was planned. A couple of large and airy cabins

AUNT POLLY.

CABIN ON UPPER DECK.

are, of course, at the disposal of the welcome guests, but in the main the boat is laid out for the comfort and convenience of the owner.

The pilot house is forward and is really a part of the large living room, which is just aft of it. This cabin serves as a saloon and dining room and it is the feature of the boat's interior.

The room is much larger than the saloons usually found on our biggest steam yachts. Wide lounges piled high with pillows, book-cases and lockers run along each side under the large windows, that afford splendid light and ventilation. On one side there is a tile fire-place, where on damp or cold days a cheery wood fire crackles. At the after end is an upright piano, and forward on each side of the pilot house are high seats that make little observatory alcoves, where one can sit in bad weather and see all that is going on outside.

The styles, trim and ceiling are in natural wood rubbed down and finished bright. The woodwork shows the tool marks on its face. The panels are of greenish grass cloth and its rough texture adds much to the room's attractiveness. The couches are covered with green denim, and a heavy rug of the same color is spread over the floor. There

CORNER OF LARGE SALOON WITH BREAKFAST TABLE SET AND OPEN FIRE BURNING.

LARGE SALOON LOOKING AFT.

are no pictures for the eye to tire of, everything has been made as quiet and restful as possible. A few simple cane chairs carry out the room's scheme of simplicity and comfort, and a few books with bright bindings and an occasional bunch of flowers give this attractive spot its note of color.

Aft of the living room is the owner's room and bath and the guests' rooms. The same good taste prevails in these apartments, yet everything is most comfortable and suggests perfect repose.

Further aft is the galley, engine space and the crew's quarters. Aunt Polly does not require many men to handle her, and is a fairly economical boat to run in every particular.

The upper deck is broken by a house of good size that is fitted up very much the same as the large cabin below. Numerous doors and windows make this almost a part of the spacious deck, and it is here that the owner and his guests spend most of their time in good weather. Rugs, hammocks, easy chairs abound and, with the awning overhead, a more attractive lounging place would be difficult to find.

Three boats are carried on davits, a launch, a gig and a sailing tender.

Aunt Polly was built by the Greenport Basin & Construction Co. at Greenport, Long Island. She is one hundred and forty feet over all, and nineteen feet breadth. Her power consists of a two hundred and fifty horsepower triple expansion engine.

CACHALOT.

CACHALOT.

OWNED BY J. B. MACDONOUGH.

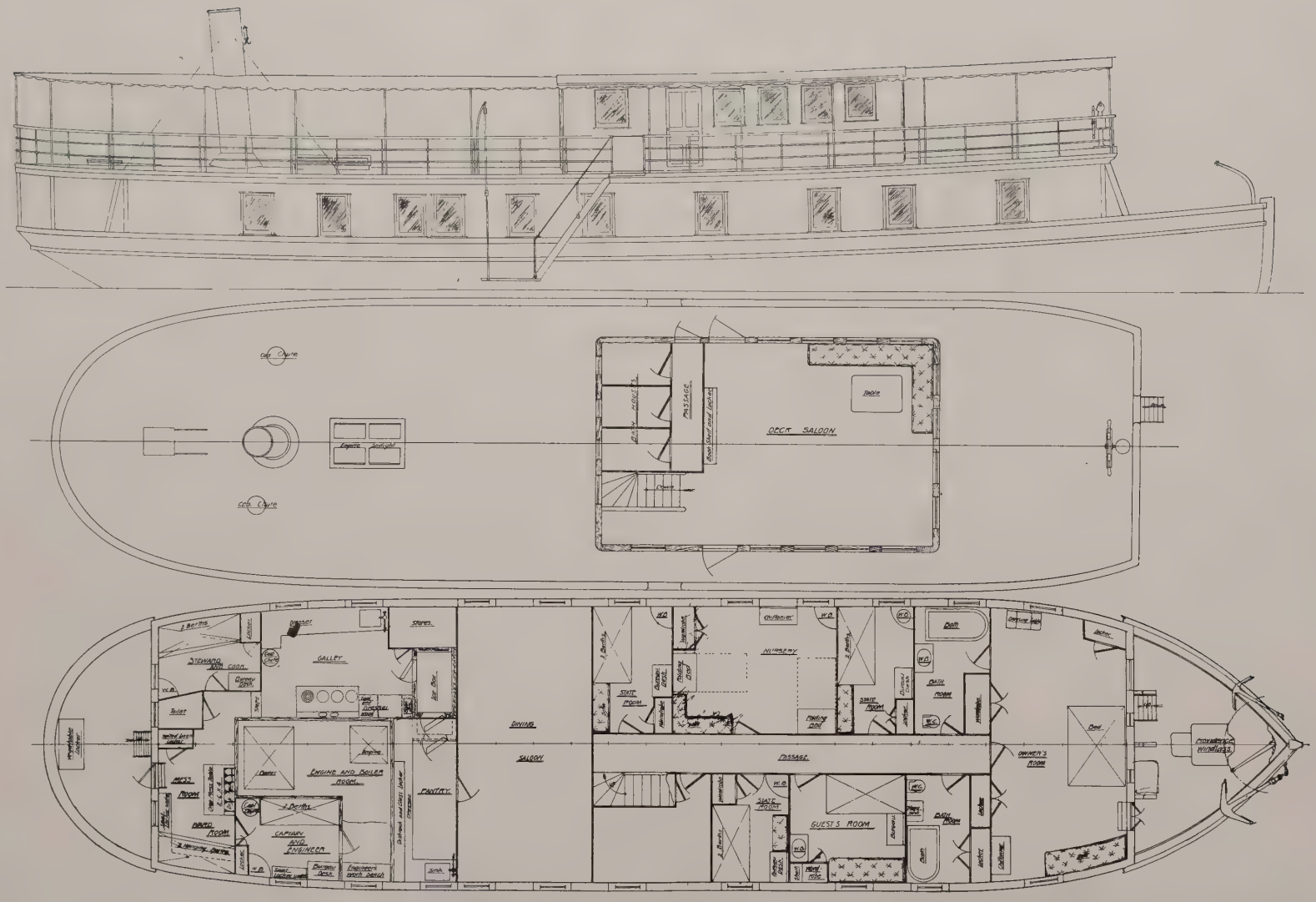
THE plans of Cachalot, made by Messrs. Tams, Lemoine & Crane for Mr. J. B. MacDonough, show a most successful type of power houseboat. As she is to be used mostly on Long Island Sound and in the vicinity of New York, her designer was not especially restricted as to draft, and for that reason he was able to turn out an ideal vessel. She was built by Samuel Ayers & Son, of Nyack, New York. The boat is one hundred feet over all, ninety-two feet on the waterline, twenty-three feet breadth and six feet draft. She is fitted with a one hundred horsepower engine that will drive her at a speed of six knots. The advantage of steam power over gasolene in a boat of this size is manifest, as it allows steam heat and electric lights without complication in the engine room.

The boat is finished in white enamel paint throughout, making her very light and cheerful below decks. Her cabins are splendidly arranged, having been laid out with much care and study. Forward is the owner's room, ten feet six inches long, running the full width of the boat; from the owner's room aft to the dining room is a passage three feet wide with bath and staterooms on each side. On the starboard side next to the owner's room is a good-sized bathroom eight feet six inches long and five feet wide, and adjoining this room is the guest room, eight feet six inches wide and nine feet long. Next aft is a smaller stateroom six feet by eight feet six inches, and beyond that another room and the companionway leading to the deck saloon or observatory. On the port side aft of the owner's room is the owner's bathroom, six feet by ten feet; next aft is a stateroom six feet by ten feet; adjoining this is the nursery, ten feet by thirteen feet; aft of the nursery is another stateroom.

Aft of the sleeping quarters is the dining room, which is eleven feet long by twenty-two feet wide, running the full width of the boat. Leading from the dining room is a large pantry five feet wide and thirteen feet long. This connects with a roomy galley, twelve feet long and nine feet wide, which is on the port side of the engine space. A large storeroom and ice-box open from the galley.

In the extreme after end of the boat on the starboard side, is the messroom, six feet by fourteen feet; opening from the messroom is a stateroom for the steward and cook and another for the captain and engineer, also a toilet room for the crew.

There is good deck space both fore and aft. On the promenade deck is the deck saloon, which is practically the only obstruction. The promenade deck is eighty-six feet long and twenty-two feet wide, all covered with an awning. The deck saloon is eighteen feet long and sixteen feet wide in the clear; in the after end are three bath houses and the staircase leading to the berth deck. Companionways forward and aft lead to the lower deck.



CACHALOT—OUTBOARD PROFILE, CABIN AND DECK PLANS.

SINGLE SCREW STEAM HOUSEBOAT.

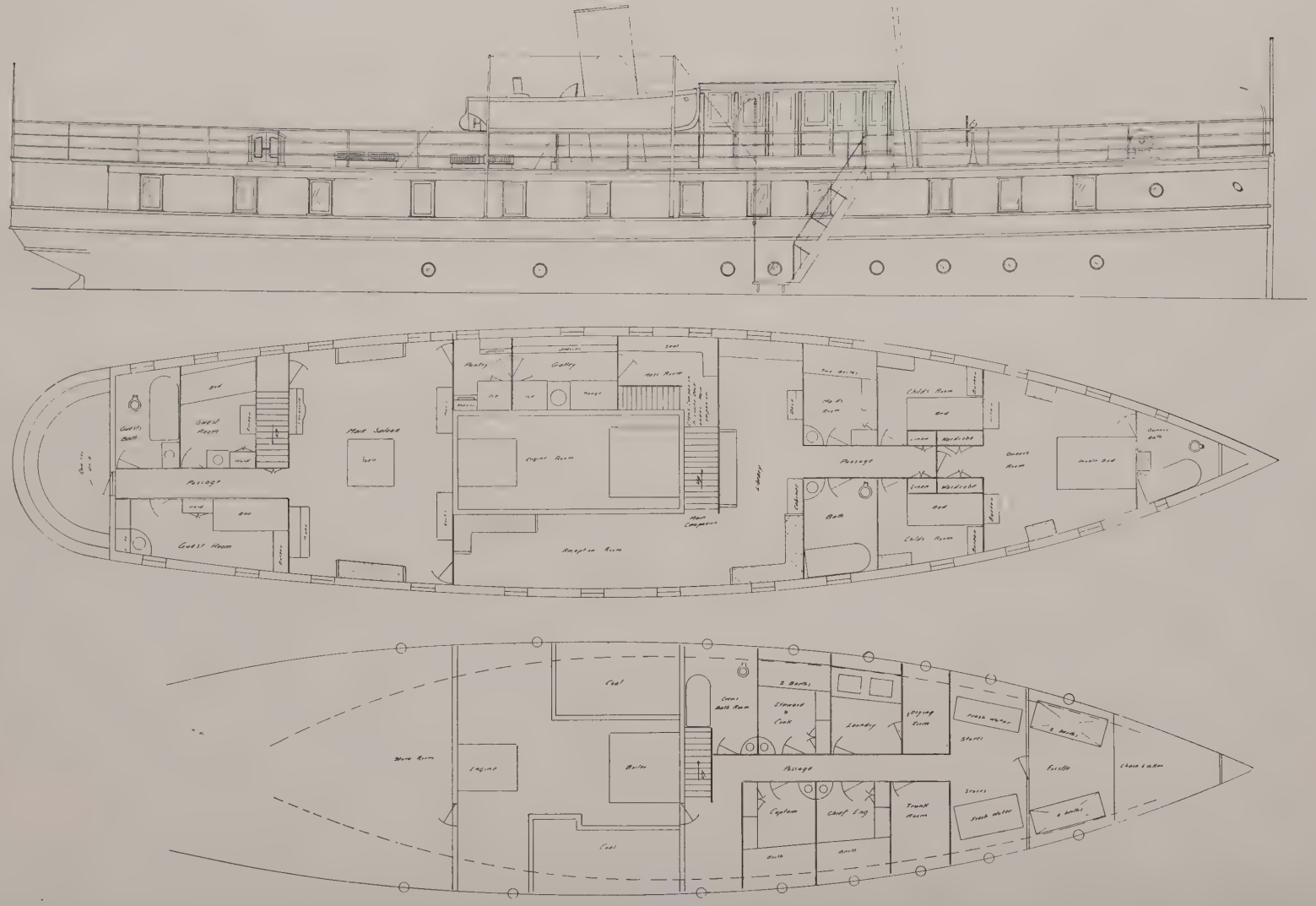
DESIGNED BY SADLER, PERKINS & FIELD.

THE accompanying plans show the general arrangement and outboard profile of a three-deck cruising houseboat, designed by Messrs. Sadler, Perkins & Field, for a well known yachtsman in Connecticut. The dimensions are: Length over all, one hundred and eight feet; length on the waterline, one hundred and two feet; breadth, twenty-three feet three inches, and draft six feet, with a speed of eight knots per hour. Being for use on Long Island Sound, and not being restricted as to draft, as is usual in houseboats designed for southern cruising, this vessel will be of normal form and will not be tunneled, as is customary for southern work.

The particular feature of this boat is the fact that the owner has the entire main and upper decks to himself, the crew being berthed on the lower deck. The advantages of the privacy thus afforded to the owner and his guests will be readily appreciated, and form one of the boat's most attractive features. The designers have carried the deckhouse all the way forward to the bow, giving the additional space thus obtained to the owner, and saving what is usually the forward deck space in houseboats of the old design. The owner's quarters come forward on the berth deck, consisting, as will be seen, of an owner's bath and large double stateroom extending the entire width of the vessel, followed by two children's or guests' rooms, maid's room, and another bathroom. The vestibule, opening from which comes the main companion to the deckhouse, has been utilized as a library, while the passage connecting the owner's quarters forward and aft has been developed into a very attractive reception room. The main saloon goes aft of the engine and boiler space, while the "bachelors' quarters" of two rooms and bath come at the extreme after end of the house. The occupants of the bachelors' quarters have also to themselves the little sheltered quarter deck at the after end of the house, where a quiet smoke in moderate attire may be enjoyed without inconvenience to the other members present.

The pantry, galley and crew's messroom are worked along the port side of the engine and boiler casing, and the crew's companion leads from the messroom to the berth deck, where provision is made for a captain, chief engineer, steward, cook and four seamen, and, besides, there is a large crew's bathroom, laundry, drying room, trunk room and storerooms. A large double ice-box has been provided, accessible from either pantry or galley and designed to carry sufficient ice for the average cruise intended. The engine and boiler space is also entered from this deck, keeping, as above stated, the berth deck absolutely for the owner's use.

On the upper deck the deckhouse is fitted up with gun rack, chart table, lockers, etc., and is to be used as a sitting and observation room by the owner. The after end of this

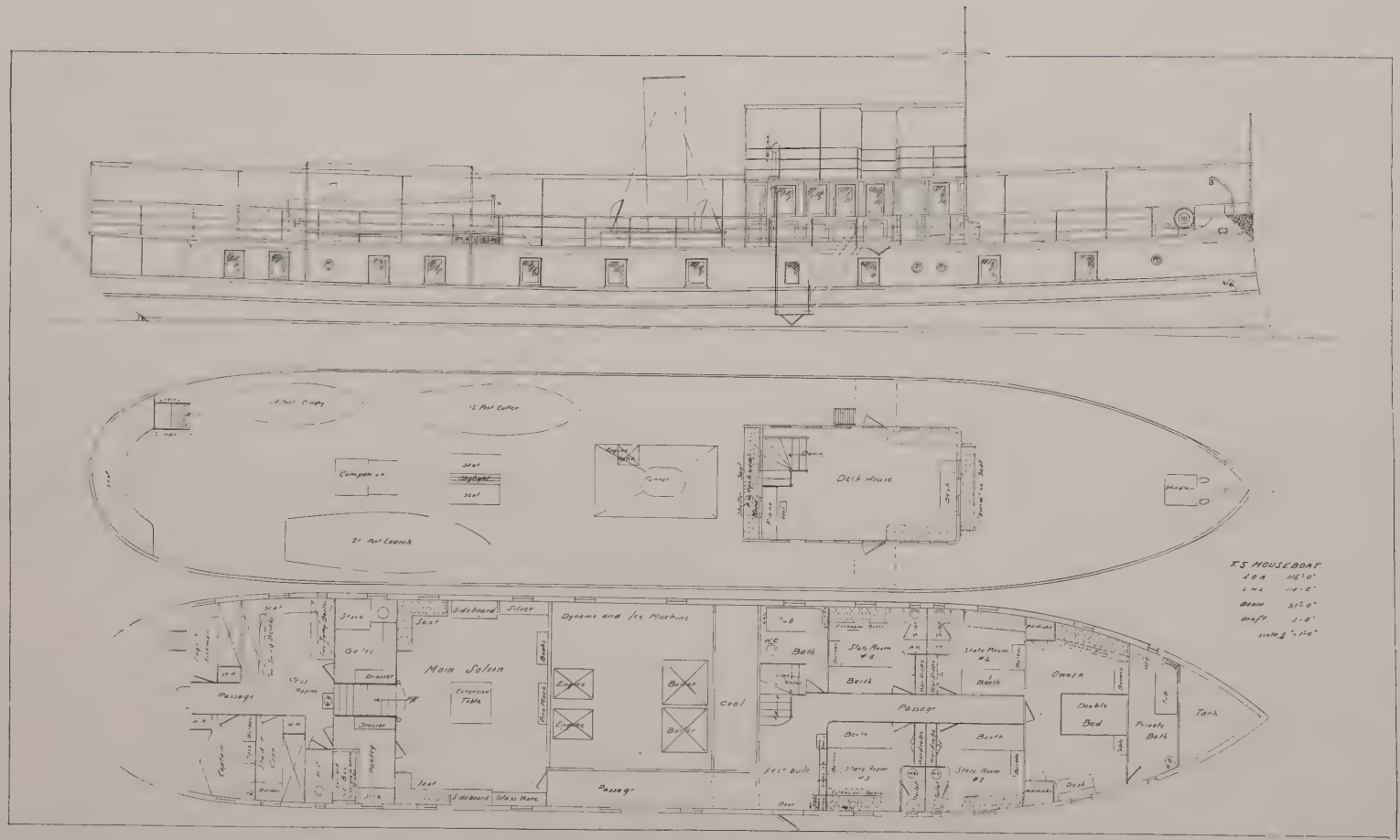


SINGLE SCREW STEAM HOUSEBOAT—OUTBOARD PROFILE AND CABIN PLANS.

house is fitted up as a shelter seat, while at the forward end an observation seat for use in pleasant weather is provided.

Three boats will be carried on davits stepped on the outside of the rail and footing on the upper fender, a twenty-one-foot launch to starboard, sixteen-foot cutter and fourteen-foot dinghy to port, while the vessel will be lighted throughout by electricity, and the various owner's quarters connected with pantry and steward's room by the usual call bells and telephone system.

The propelling machinery consists of a vertical inverted compound condensing engine, with cylinders ten and twenty by fourteen-inch stroke, taking steam from an Almy water tube boiler working at one hundred and fifty pounds pressure. Being used on the Sound, where longer cruises will be indulged in than the usual houseboat is called on to perform, a large coal supply has been arranged for. A five kilowatt General Electric Company generator will supply the interior and exterior illumination of the vessel, while the usual complement of pumps and the steam steering gear complete the engine room auxiliaries.



MARGARET—OUTBOARD PROFILE, CABIN AND DECK PLANS.

MARGARET.

OWNED BY ISAAC E. EMERSON.

MARGARET, popularly known as the houseboat palace, was designed by Messrs. Sadler, Perkins & Field for Isaac E. Emerson, Esq., of Baltimore, Maryland, and launched in 1904 from the yards of the Marine Construction & Dry Dock Company, Mariner's Harbor, Staten Island. The vessel is one hundred and sixteen feet over all, one hundred and ten feet on the waterline, twenty-one feet breadth and three feet draft, and following the practice of the designers in all their later boats, the upper deck is carried all the way forward to the stem, the contour of which has been modeled to conform to the standard Navy bow. The hull is constructed of steel to the height of the upper fender, and is of the twin-screw, shallow draft, tunnel stern construction, modeled after the famous Thorneycroft tunnel type, which first appeared in the British torpedo boat destroyer class of a few years ago.

The arrangement provides ample accommodation for the owner and his guests, forward of the machinery space, with the exception of the main saloon, which comes just aft of the engine room, and forward of the crew's quarters. A portion of the additional space obtained by the built-up bow is devoted to the owner's private bath, following which comes a large double stateroom extending the entire width of the vessel. Aft of the owner's stateroom are four extra large guest staterooms, following which on the port side and under the forward companion, is the guest bathroom. A particular feature of the guest staterooms is the private lavatory compartment fitted in each, while ample wardrobe space and extension sofa supplies as much comfort as is possible to obtain afloat. Aft of the main vestibule comes the boiler and engine space, following which is the main saloon connected with the vestibule by a broad passage on the starboard side of the ship.

The galley and pantry are directly aft of the main saloon on either side of the main companion, following which are the crew's quarters, provision being made for captain, two engineers, fireman, steward, cook and four deckhands. Carrying the upper deck all the way to the stern from the after end of the deckhouse leaves the small quarterdeck aft for the use of the crew, which has the advantage of leaving the entire upper deck at the disposal of the owner and his companions. As usual in their houseboat designs, the designers have arranged for a water-tight door cut into the starboard side of the boat, opening into the main vestibule opposite the forward companion, to be used by the owner in pleasant weather, making an easy entrance through the side of the ship from the small boats, while in rough or stormy weather the companion ladder leading directly to the upper deck will be used, while the water-tight door is closed.

Access to the upper deckhouse is obtained by the forward companion, which comes just forward of the engine space, opening out of

the vestibule and leading to the deckhouse which, on this vessel, is fitted up as a combination music and smoking room. Coming, as it does, at a considerable height above the water, and with a length of twenty feet and a width of twelve, a cooler spot on a summer's afternoon would be hard to find. The after end of this house is fitted up as a shelter seat, while at the forward end an observation seat for use in pleasant weather is provided. The upper deck may also be reached from the dining saloon through the main companion previously referred to.

One particular feature of this boat is the use of interlocking rubber tiling for upper and bridge deck, and also the passageways on the main deck. This system of flooring has been used to good advantage in some of the large ocean-going steamers, and was selected by the owner after considerable personal investigation.

As this boat was designed for Florida waters, special care was exercised in the ventilating and sanitary system, and an extra large ice-box was fitted in the pantry reaching from the hold to the upper deck, while an ice machine with a capacity of one ton per day was installed to insure an abundant supply of this necessary commodity in warm climates.

The vessel is steered from the bridge deck, wings being carried out to either side of the ship, the bridge being reached by a ladder on the port side of the deckhouse. All the staterooms, main saloon, deckhouse and bridge are connected with the pantry and steward's room by call bells and telephones, while the usual complement of marine signals and telegraphs lead from the wheel to the engine room.

Three boats are carried on davits stepped on the outside of the rail and footing on the upper fender, a twenty-one-foot launch to starboard and a sixteen-foot cutter and fourteen-foot dinghy to port.

The propelling machinery consists of two sets of vertical inverted triple-expansion engines of the torpedo boat type, having cylinders five, ten and fifteen by seven-inch stroke, and taking steam from two Almy water-tube boilers. A five kilowatt General Electric Co. direct connected dynamo supplies the lights for the interior and exterior illumination and the searchlight, and a one ton ice machine, previously mentioned, is also installed. Coal is carried in an athwartship bunker extending from the fireroom floor clean to the upper deck. The usual fresh water and trimming tanks forward and aft are supplied.

It will be noted that the machinery is located amidships, an invariable rule of the designers in shallow draft boats to offset the hogging tendency so dangerous where the weights are at the extreme ends of the ship.

This boat was built on the designers' guaranteed draft of three feet and speed of ten miles, and has more than fulfilled her requirements in these regards.

No expense was spared to make this vessel one of the most luxuriously equipped afloat, and she is conceded to be the most beautiful houseboat on the Atlantic coast to-day.

STEAM HOUSEBOAT, BATTLESHIP TYPE.

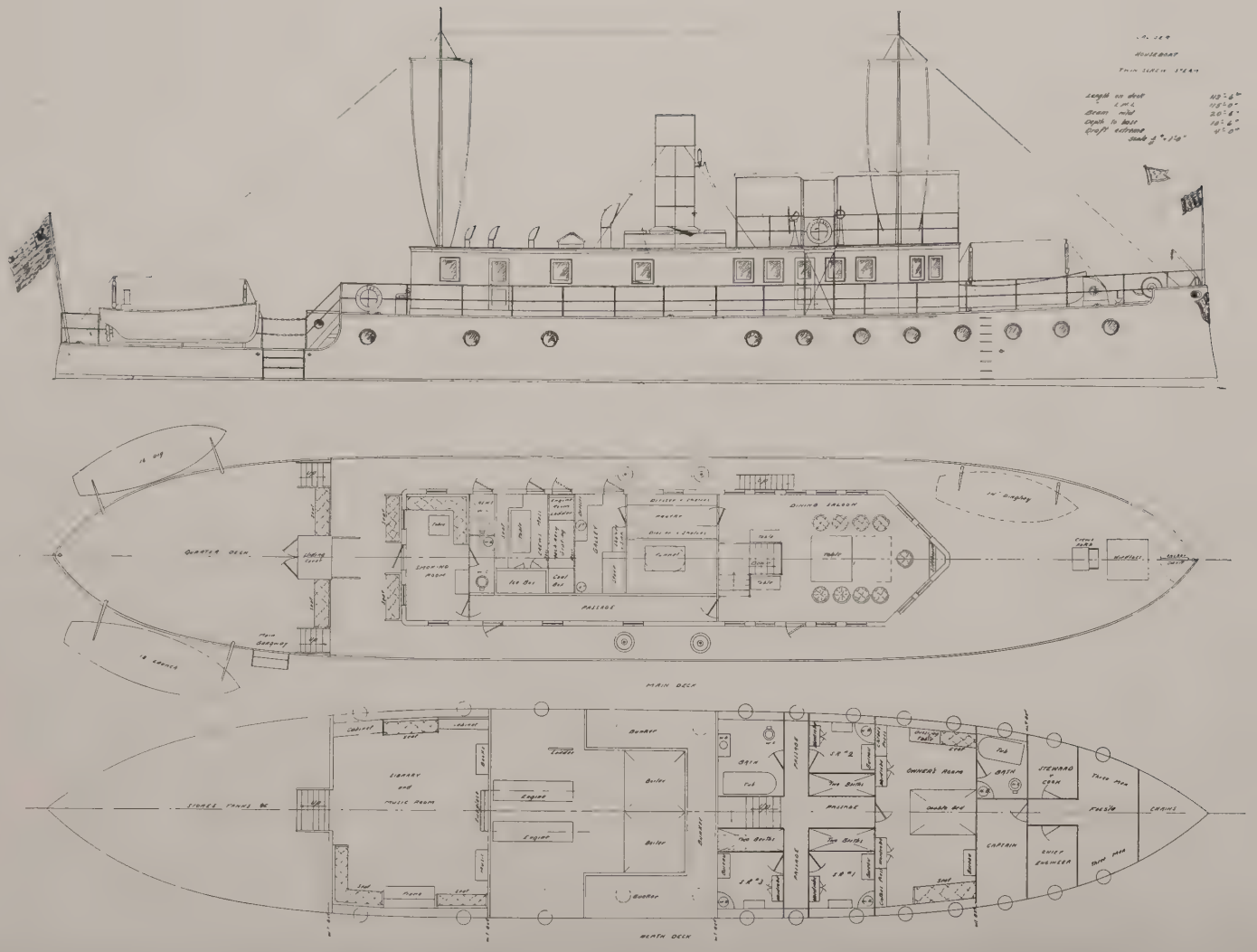
DESIGNED BY SADLER, PERKINS & FIELD.

THE plans of the steam houseboat of the battleship type, which were made for a New Jersey yachtsman, illustrate to what a high state of perfection the designers, Messrs. Sadler, Perkins & Field, have developed this class of vessel. The designers have called this design their battleship type, as a glance at the outboard illustrates the fact that the general contour is identically the same as the outboard appearance of the Alabama class of United States battleships. This outboard was not developed with the primary object of copying the lines of a man-of-war, but to meet the suggestions and requirements of houseboat owners, one-half of whom claim that the deck of a houseboat should be very near the water, the other half wishing good freeboard and a footing considerably above the loadline. As will be noticed in the accompanying plans, the quarterdeck is low down to the water, affording an easy landing from the small boats, and meeting the desire of those who claim that the nearer the water the cooler the spot on a hot summer's day. The upper deck being at a greater height above the waterline gives an improved element of seaworthiness and drier boat forward and the elevation desired by others, and complying with the designers' regular practice of building up the sides of the vessel at the bow, thereby gaining additional accommodation space forward. The length and beam are almost identical with those of the designers' Margaret, launched in 1904, and a comparison of the plans of these two boats will afford an excellent opportunity to judge of the relative merits of the types as depicted.

The design calls for a vessel one hundred and thirteen feet six inches long over all, one hundred and fifteen feet on the waterline, twenty feet six inches breadth, and a guaranteed draft of four feet, while a speed of ten miles has been promised.

Beginning at the bow, the arrangement calls for the crew's quarters forward, provision being made for a captain, two engineers, cook, steward and six men. Next comes a large double stateroom for the owner with private bath opening from the port side forward, following which are three double berthed guest staterooms, and guest bath, on the port side of the forward companion. The machinery space comes next, directly amidships, between which and the quarterdeck the library and music room is situated. A companion leads from the after end of the library to the quarterdeck, which being only a "half height," makes a very easy companionway, especially for the ladies of the party.

The deckhouse is reached from the forward quarters by the forward companion, which opens up into the dining saloon in the forward end of the deckhouse, as shown. The forward end of this deckhouse is built on an angle, conforming as much as practicable to the outline of the superstructure on the class of battleship above referred to. The galley and pantry come directly aft of the dining



STEAM HOUSEBOAT, BATTLESHIP TYPE—OUTBOARD PROFILE, CABIN AND DECK PLANS.

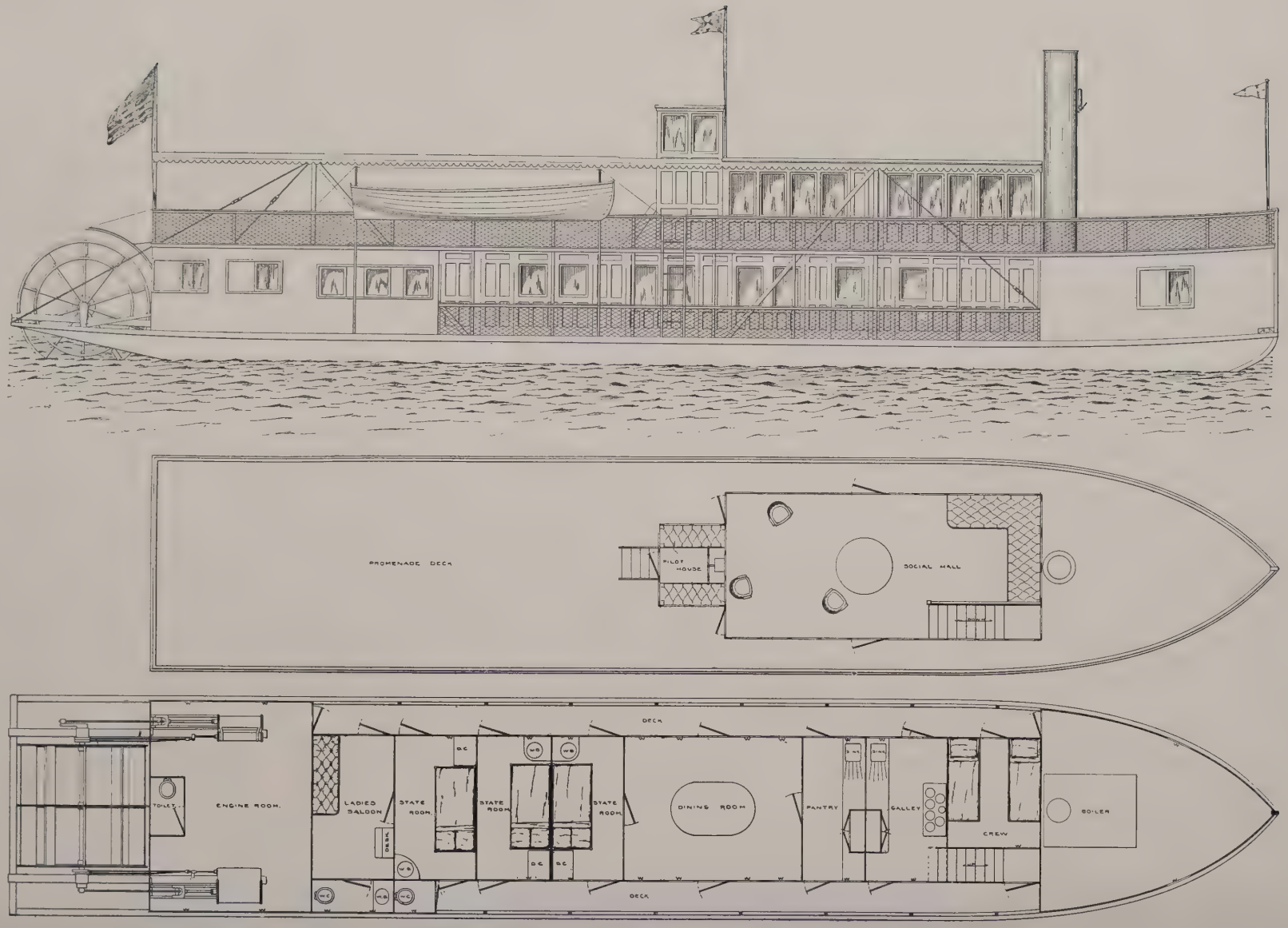
saloon, as does the officers' messroom, opening from the port side of the deckhouse. The smoking room comes at the after end of the deckhouse and connects with the dining saloon forward by a passageway running along the starboard side of the deckhouse. An extra toilet is worked in just forward of the smoking room, just aft of the officers' mess. Two shelter seats are constructed at the after end of the deckhouse, while at the end of the upper deck on each side of the companion leading from the quarterdeck to the music room two more seats are fitted.

Structurally this arrangement works out very well, enabling five water-tight bulkheads without any openings whatsoever to be worked into the vessel, reaching from keel to upper deck, and the machinery being situated amidships, concentrating the greatest weight at the point of greatest strength, as is the designers' practice, effectually prevents the danger of hogging after one or two years' use.

The vessel will be steered from the bridge, wings being carried out to either side of the ship and being reached by a ladder on the port side of the deckhouse. All the staterooms and living rooms and shelter seats are connected with the pantry and steward rooms by call bells and telephones, while the usual complement of marine signals and twin telegraphs connect the bridge to the engine room and captain's quarters, which makes a very complete system.

Three boats will be carried, a fourteen-foot crew's dinghy on the forecastle deck forward to port, and an eighteen-foot launch and sixteen-foot gig aft on the quarterdeck.

The propelling machinery consists of two sets of vertical inverted triple-expansion engines, of the torpedo boat type, having cylinders five, eleven and sixteen by eight-inch stroke, and taking steam from two Almy water tube boilers at a working pressure of two hundred and fifty pounds. A five kilowatt General Electric Co. direct connected dynamo supplies the lights for the interior and exterior illumination and the searchlight, and an ice machine with the capacity of one and one-half tons per day is also installed. A large coal capacity is secured by a thwartship and two fore and aft coal bunkers at the forward end of the boiler room. The usual fresh water and trimming tanks forward and aft are supplied.



GEORGE D. PURDY—OUTBOARD PROFILE, CABIN AND DECK PLANS

THE STERNWHEEL HOUSEBOAT GEORGE D. PURDY.

OWNED BY T. A. McINTYRE.

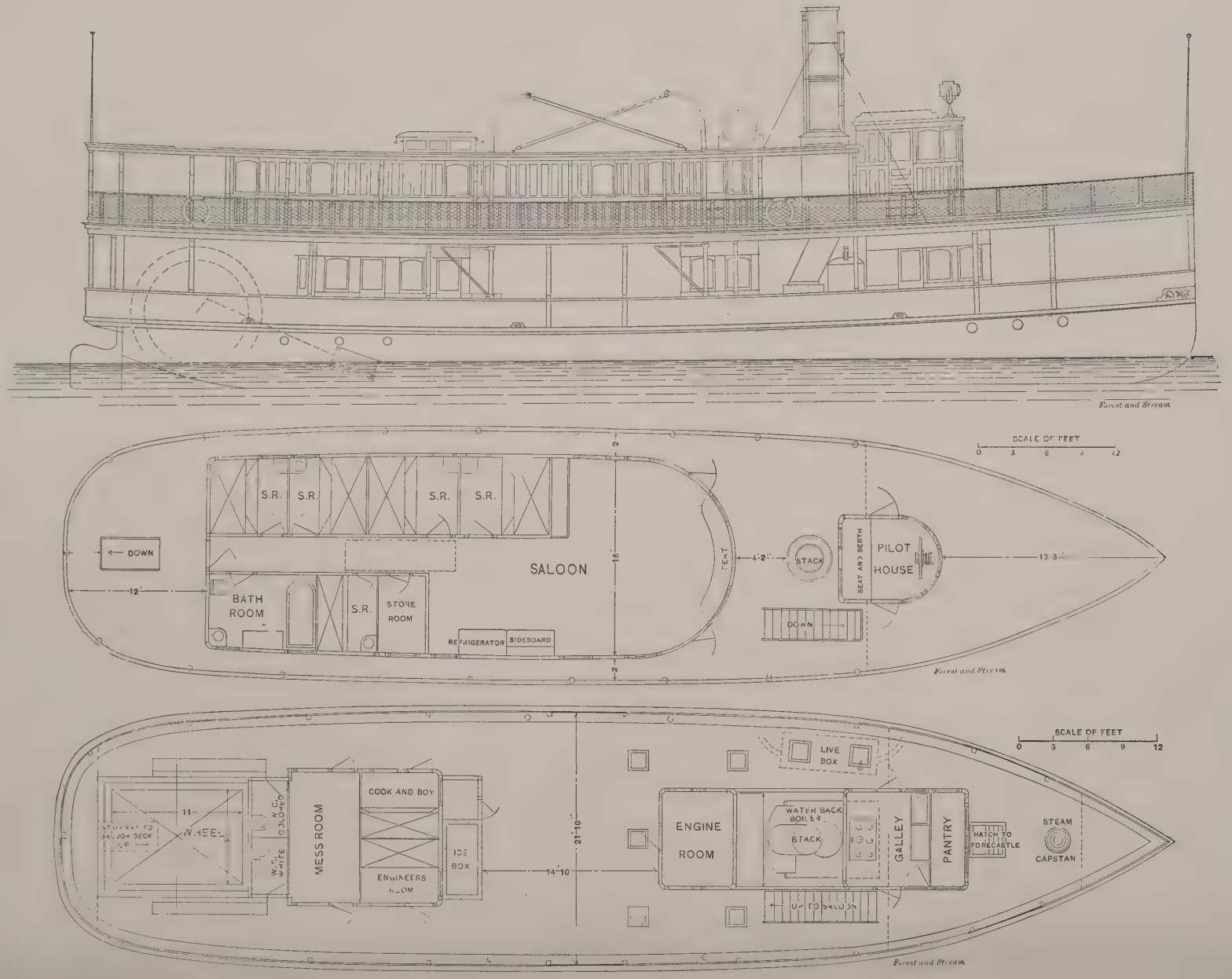
THE sternwheel houseboat George D. Purdy was originally built by the Gas Engine & Power Co. and Chas. L. Seabury & Co., Cons., in 1894, as a passenger steamer for the Delaware, Wilmington & Norfolk Railway Co., but was afterward purchased by Mr. T. A. McIntyre, who converted her into a houseboat. She is eighty-seven feet long over all, eighty-one feet on the waterline, sixteen feet breadth and two feet draft.

The boiler room occupies the bow of the boat and just aft is the crew's quarters. Next aft is the galley and connecting with it is the pantry. A large dining saloon is next reached. Following are three staterooms and a ladies' cabin, all of the same size, and all fitted up very much the same, connecting with the ladies' cabin on the starboard side. All the rooms on the lower deck have cross ventilation and can be reached from the passageways that run along either side. The engine room is in the extreme after end of the vessel.

A companionway on the starboard side forward leads to the large cabin that occupies the entire deckhouse. This room is used as a general living room by the owner and his guests. Aft of this room is the pilot house, from which place the vessel is handled. Aft there is a large promenade deck which is entirely unobstructed.

The propelling power consists of a Seabury horizontal engine connected direct to the paddle wheel. Forward is a Seabury safety water tube boiler with steam pipe connecting with the engine. The boat's speed is twelve miles an hour, which is rather more than one expects in a vessel of this type.

GEORGE D. PURDY.



VAGABONDIA—OUTBOARD PROFILE, CABIN AND DECK PLANS.

THE STERNWHEEL HOUSEBOAT VAGABONDIA.

OWNED BY W. L. MELLON.

THE houseboat Vagabondia was designed for general cruising in Florida waters, both inland and coastwise. She is of light draft and is propelled by a recessed sternwheel, which style is necessary in order to successfully navigate the narrow and tortuous rivers, such as the well-known Ocklawaha and Upper St. Johns. She has made the run from Jacksonville to Lake Washington, the head of the St. Johns River, a distance of some three hundred and fifty miles, and she is one of the largest craft that has ever made this trip. She has also made the trip from St. Johns to Mosquito Inlet, some ninety-six miles outside, under her own steam.

Vagabondia is ninety-two feet long over all, twenty-one feet seven inches moulded breadth, and five feet moulded depth, driven by a sternwheel eleven feet in diameter by eight feet face of bucket running in a recess or well in her stern nine feet wide by thirteen feet long. Her hull was designed with an easy entrance and round bilges with very little deadrise. The frames are of white oak, sided two and one-half inches, and moulded six inches at keel, and four inches at gunwales, spaced twenty-four inches centers and doubled at bilges. The keel is of yellow pine three inches by twelve inches flatways, with four inches by twelve inches keelson. The stern is of live oak. The planking is of two-inch white cedar, all planks bolted between frames on bolted butt blocks, all frame fastenings are screw bolts, planking galvanized spikes. Deck beams are of yellow pine. Decking of two-inch white pine matched and caulked with one thread of cotton. Sides of well are five-inch yellow pine on edge, bolted. Longitudinal strength is secured by two fore and aft latticed girders.

There are two water-tight bulkheads, one at the bow for collision bulkhead and water tank, and one just forward of boiler, the space between being used as forecastle.

The superstructure on the main deck consists of pantry and galley, forward of boiler hatch, fireroom and engine room immediately aft of boiler. Aft there are two staterooms for officers, crew's messroom, two toilet rooms and the wheel inclosure.

There is a gangway thirty inches wide all around aft of the wheel. From the after part of the wheel is a stairway to the saloon deck, eight feet above it is found the pilot house, raised thirty inches above the deck, giving a thirty-inch tight locker underneath. Then there is the stack casing with ample gangway all around, then comes the owner's quarters sixteen by forty-four feet, containing two staterooms six and one-half by seven and one-half feet, two six and one-half by six and one-half feet, one six and one-half by five and one-half, storeroom five by six and one-half, and bathroom six and one-half by nine, main cabin sixteen by sixteen, containing dining table, sideboard, refrigerator, wardrobe, bookcase and gun locker. The inner cabin work is of white pine finished in white enamel. All metal

work and hardware is polished brass, except bathroom and lavatory fixtures, which are nickel. Bookcase and wardrobe are mahogany built in place. Staterooms and bathroom are fitted with porcelain lavatories. Each room is fitted with electric lights and bell. The cabins have combination oil and electric lamp fixtures.

The machinery consists of a six and one-half by eight-inch Scotch boiler carrying one hundred and forty pounds of steam, supplying a pair of eight and one-half by thirty-six-inch piston valve condensing engines driving the propelling wheel. The engines are inclined and almost entirely under deck, the cranks alone being above deck and covered by a movable boxing. The condenser is a brass pipe of the outside or keel pattern and is fastened on the sides of the wheel recess where it is safe from damage by snags, etc. The reverse lever is extended forward to the engine room just behind the boiler, from where the engine is operated. Here is the throttle as well as the air pump, feed pump, sanitary pump, fire pump and electric plant, which consists of a 4.3 kilowatt DeLaval turbine generator furnishing current to seventy-five incandescent lamps, a searchlight mounted on the pilot house, and to a fifty-six-cell storage battery.

There is a Providence steam capstan forward for handling anchors and pulling the boat over shoals and bars, for which purpose she is provided with lifting spars and tackle as well as with a large hydraulic pump for washing around and under the boat when necessary to free her.

Vagabondia is provided with extra heavy davits for handling naphtha launches, which, when hoisted, are rested on swinging brackets with chocks carried on the davits.

In the hold is a live well for fish and bait, three feet by eight feet. She has fresh-water tanks for two thousand gallons capacity below deck. Her main fuel is wood, of which she can stow ten or twelve cords under the deck.

The houseboat Vagabondia was built for Mr. W. L. Mellon by the Merrill-Stevens Engineering Company of Jacksonville, Florida, from designs of the company's engineer and president, Mr. A. D. Stevens.

THE GASOLENE HOUSEBOAT WATEREE.

GASOLENE POWER FOR HOUSEBOATS

BY A. E. POTTER.

THE application of power for the propulsion of houseboats is one more likely to give trouble than in any other type of craft. Requirements are different, and while almost any engine or any installation will work more or less satisfactorily in an open launch, unless the selection of the engine is made carefully and knowingly, the results will frequently fall far short of expectation. The danger, which is very small in the open launch, may be considerably increased in imperfect or unsafe location of the tanks, insufficient care in making connections, and more frequently carelessness in operating the engine.

Many years and hundreds of thousands of dollars have been spent in attempting to adapt the kerosene oil engine to marine use, but there are certain fundamental principles involved, and some problems yet unsolved, so that its adoption has not yet been made to any great extent. It takes ten to fifteen minutes to start them; they have not the speed flexibility desired, electric ignition cannot be practically employed, the time of ignition cannot be changed instantly; deposits of carbon will fill the hot ball, cylinder and exhaust passages, and there is almost always an acrid, evil-smelling smoky exhaust. Freedom from this makes the gasolene engine so popular, and seems to outweigh the slightly increased danger from the use of gasolene. It is but natural that the kerosene oil engine manufacturer should try to magnify the danger from the use of gasolene and minimize that from kerosene; but whenever kerosene leaks in a boat there is an acrid odor that is particularly unpleasant, and suggestive of the presence of a large quantity in the boat, when there may be but a small amount with which the timbers, ceiling and planking, perhaps, are thoroughly impregnated, no matter whether kerosene is employed in explosive engines or as fuel to generate steam or naphtha vapor under pressure, as in the naphtha, alcovapor or similar engines.

The naphtha engine is not so well adapted to the houseboat as the explosive gasolene engine, unless the boiler or generator can be placed in an open cockpit, carefully lined with sheet brass, so that fire, should it reach any accumulation of naphtha, would be prevented from attacking the wood of the boat. The number of boats using naphtha that have been burned shows conclusively that from a point of safety it is hardly a desirable power except in open launches. As yacht tenders, they give good satisfaction; but their first cost is high, and consumption of fuel is much more per horsepower than if used explosively. Naphtha launches, with the usual outside condensers, should never be used for towing especially heavy slow-moving craft, like houseboats,

for the sluggish motion through the water does not condense the vapor, and it is not long before there is trouble and the Babbitt is melted out of the bearings. There is one good feature of the naphtha engine, however, and manufacturers of explosive engines should study it carefully, and pay just a little more attention to their product than they do. This is that the naphtha engine is long-lived. The first naphtha engine ever seen in England, manufactured by the Gas Engine & Power Co. in 1886, was in 1904 returned to this country to be repaired.

The alco-vapor and compound vapor engines, both perfected by the inventor of the naphtha engine, the late F. W. Ofeldt, are of a similar type, except that naphtha vapor under pressure is not used and kerosene is used for fuel. For some reason in common with the naphtha engine, they are unsuited for houseboat use, as they have to be installed in open cockpits, and any open flame is always an element of danger.

The electric motor with storage battery, were it not for its cost of installation and operation, the excessive weight of accumulators, and inconvenience frequently to get to charging stations, would be more generally used. Here is the ideal power, for there is heat and light as well, and with recent improvements brought out during the past few years, provided the first cost is not prohibitive, its use will be more general.

At the first National Motorboat and Sportsman's Show held in 1905, there was on exhibition an electric-propelled launch in the lagoon, decorated with 150 miniature lamps. This boat was equipped with a special new type light weight battery, giving a cruising radius of 75 miles on one charge. The reduction in weight of the accumulators is of especial importance, as with the same weight in batteries the cruising radius is considerably increased.

Another noticeable improvement is in the mercury rectifier with which it was equipped. Formerly it was necessary to use the direct instead of the usual alternating current for charging. Over 90 per cent. of the electric current is alternating, and it was necessary to install a rotary transformer at a cost of several hundred dollars in order to utilize the alternating current. This has been revolutionized, for at a cost of but ten to fifteen dollars any electric launch can be so equipped that the charge can be taken from arc light or even trolley circuits. Electric launch motors run at high speed, but with the better understanding of the necessities of propeller wheels, much better results are obtained than years ago, when they were first projected. Nevertheless, in employing electric power for the propulsion of heavy houseboats, the propeller wheel must be very carefully designed, so as not to waste the power, which costs much more than any form, except wind and tide.

Steam, with its accompanying dirt, heat, space occupied, coal bunkers, licensed engineer, Government inspection, etc., is unsuited except for larger craft. The explosive type of engine has very naturally come into almost universal use, and for the purpose appears better than any other power. It is therefore with particular reference to the gasolene-propelled boat that I shall deal exclusively.

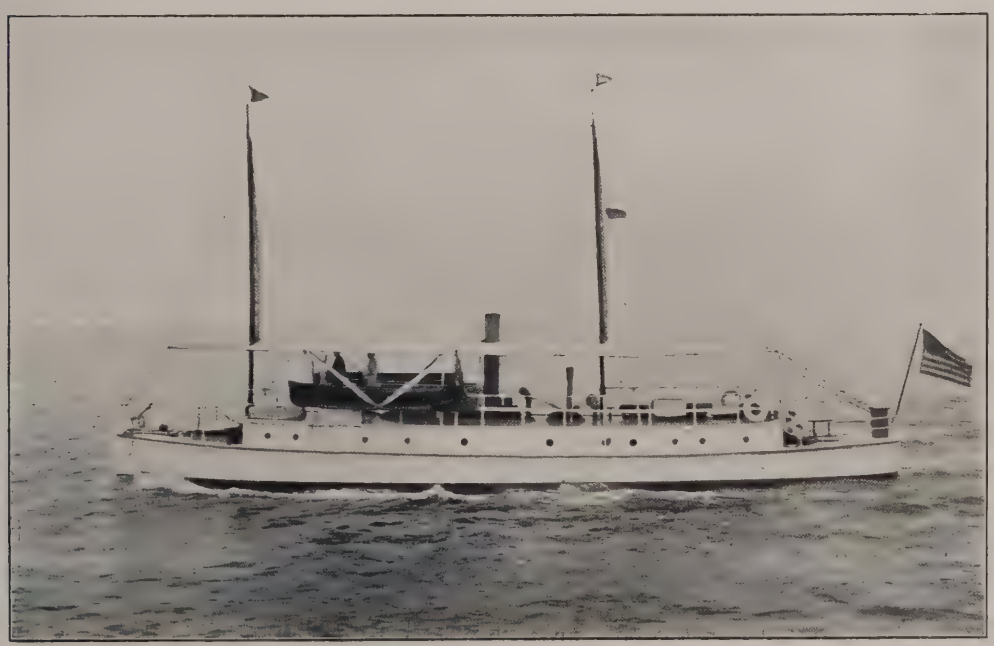
There are two ways to make application of power to a houseboat. One is by means of an engine in the boat itself, and the other

from an engine in a launch, which can be used as a tender, and also for moving the houseboat from place to place. Both methods have their advantages as well as disadvantages. The same engine proposed to be installed in the houseboat might be entirely unsuitable for the launch, and vice-versa.

If the power is to be installed in the larger craft, one should know before just what is to be required of it. If solely for propulsion, a very simple power plant can be devised. If a lighting system, including a set of accumulators, is projected, search-lights, pump, etc., the plant may be very complex.

In case the engine is to be handled by the owner, or one who is unfamiliar with the operation of machinery, the very simplest installation one could make would be a single cylinder two-stroke engine of approved type. This engine should be rigidly connected to a shaft and solid propeller, or in case the engine is desired to be run idle, a cut-off coupling or clutch can be added at slight cost. This engine should not have too high compression, and should be constructed to run in either direction at the will of the operator. This eliminates the necessity of reversing gears and feathering propellers, and has an additional advantage—the economy of space otherwise occupied by the reversing gear, as well as the advantage of being able to free the wheel of grass by changing the direction of rotation, something impossible, or rather impracticable, with a reversing or feathering wheel where the engine will only run in one direction. There is usually a large amount of power wasted in reversing wheels.

In two-stroke engines, employing reversing wheels, governors will be found to be quite superfluous, for when the position of the



THE GASOLENE HOUSEBOAT DECOY.

blades is such that no power is exerted ahead or astern, there is probably one-half or more power utilized in frictional resistance and churning the water; for the blade being twisted, the power exerted ahead is neutralized by the power in the opposite direction. It is rarely that a two-stroke engine needs a governor except when employing a reversing gear, and of ten or more horsepower. Unless the engine is of the modern three-ported jump spark type, using no check valve, it will very rarely "race" to any great extent, even should the power be suddenly thrown off. The exhaust seems to choke up before extremely high speed is reached; but a more correct solution would seem to be that the increased friction of the incoming air and vapor would not give sufficient gas, and missed explosions would result. When jump spark ignition is employed, a much higher rate of engine speed can be noted when running with no load, and this bears out in part the fact that the decreased length of time the electrodes are in contact may account for some of the loss due to high speed.

The tank should be located in the extreme bow of the boat, inclosed in a ventilated compartment, which should be shut off from the balance of the boat by an absolutely tight bulkhead, to prevent any possibility of gasolene leaking or getting into the run. The gasolene piping should run the entire length outside of the boat, entering the hull again close to the engine. Stop valves should be provided at the tank, and also where the piping enters the boat, and these should both be closed when the engine is not running.

This compartment should be thoroughly ventilated, a piece of brass wire gauze being carefully fitted into the vent pipe or scupper to prevent possibility of any flame getting into this space through the vent. Water should be allowed to circulate about the tank and wash out any gasolene that may possibly be spilled into the compartment when filling the tank.

One authority advises the use of double piping from the tank to the engine, one pipe inside the other, saying that a great many launch builders have adopted this precaution. I have never advised nor countenanced any such unwise waste of piping and labor, for the usual places where leaks develop are at the tank and engine or vaporizer connections. Double piping should be prohibited. No thinking builder would ever adopt it. The space occupied by the engine should be well ventilated by deadlights at the side and by a large open hatch above if possible; while a tight bulkhead just forward of the engine will effectually prevent the odor of grease and burnt gases from invading the living apartments. Nothing is more unpleasant to one not used to it, than to put one's head on a pillow or cushion on board a boat and get his nostrils filled with greasy odors. You may not notice it yourself, but should you have any guests, it is no more than decent that care in this respect should be exercised. There is one other strong reason for this second bulkhead. The run or bilges being protected by the bulkhead at the forward end, should be similarly protected at the after end, as an additional measure of safety in case of a leak of gasolene in the supply pipe connections.

In operating the engine, if you find by any oversight that the two valves in the supply pipe were left open, be sure that there is no

THE GASOLENE HOUSEBOAT RUFFHOUSE.

odor of gasolene around the engine or in the space where it is located, for it would be an indication of a leak, which should be attended to at once. All the gasolene should be pumped out with the bilge water, and the engine should not be started until the entire place has been thoroughly ventilated. A wind sail is an excellent thing for this purpose, and can be easily and cheaply constructed, and as a measure of safety could be employed every day to improve the ventilation.

Houseboats are usually of very shallow draft, and for this purpose it is frequently necessary to install the engine at a considerable pitch or inclination, particularly if the engine is to be abaft the living quarters. This will result in a certain loss of power, and where such conditions are met, a little more power will be necessary.

The propeller wheel sometimes has to be of smaller diameter than one would ordinarily employ. It should have very large blade surface, the same principle as is employed in tugboat or power wheels, rather than the cheap narrow-bladed light wheels usually sent out by the engine manufacturers. For the best results, a slow or medium speed engine should be selected rather than one of high speed; not alone on account of its tendency to longer life, but on account of its greater economy and better driving power necessitated by the large amount of submerged surface of the vessel.

It may be necessary, in order to get sufficient blade surface to the propeller, especially when a small diameter has to be employed, to use a four-bladed wheel, but a three-bladed is to be preferred if it can be used. One strong

reason for this is that it is possible to bore the shaft hole so that three blades will be nearer of the same relative pitch than when four blades are used. An illustration of this principle is in the three-legged stool against the four-legged chair. Did you ever try to shorten the legs of a chair?

The multiple cylinder two-stroke engine cannot be called extremely successful, and its selection, if of ten horsepower or over, will rarely give satisfactory results from various structural causes. If such high power as this is desired, I should by all means advise twin screw construction if using two-stroke engines. The power developed by two single cylinder engines will usually be as much or more than a double cylinder of the same dimensions, but the speed of a boat equipped with twin screws will be decidedly higher. Another decided advantage in twin screw construction is that either engine may be run separately, while with a double cylinder engine, "one out all out."

If space will warrant it, and the increased cost can be successfully coped with, a four-stroke engine of ten to fifty horsepower will be found to give very little trouble, provided it is an engine designed and built for heavy service; for instance, such as used on oyster boats, etc. The lighter built automobile and high speed engines are manifestly unsuited for houseboat use, are fragile, short lived, and very seldom develop the power at which they are rated, while the working boat engines usually are underrated, developing more than their nominal horsepower. Reverse gearing is much more satisfactory than reversing wheels, provided they can be kept away from direct contact with salt water.

For a slow speed engine that is only used occasionally, it is a question which will give the least trouble, make-and-break or jump spark. The cost of installing the jump spark is more than the make-and-break, but additional power from a close adjustment of the spark lead is bound to result, and where the coil and vibrator can be protected from the wet, ought to give little trouble. One decided advantage is absence of moving parts inside the cylinder. The rocker shaft is much more liable to stick if the engine is to lie idle a few days than if used daily.

Float feed carburetors will be found to give better results than vaporizers on four-stroke engines. They are invaluable on two-stroke engines of the "three ported" type; but the necessity of a check valve in combination with the carburetor does not seem to materially increase the power in the ordinary type of two-stroke engine. An advantage of no little value is that the float feed carburetor diminishes to a large extent the liability to "flooding," in itself of no small importance, and fuel is used more economically.

Governors are very important on engines, especially of the four-stroke type using reversing clutches, to prevent the engine from "racing" when throwing the propeller shaft out of engagement, either ahead or back, much more so than on two-stroke engines. The range of governing should not be too close, for frequently it will be found to throttle the engine before the full power of the engine is exerted on the wheel. Experimenting just a little, by stiffening the springs until the governor will not act until the engine speed is increased forty to fifty revolutions per minute, will frequently increase the efficiency

of the engine perceptibly. Note your engine speed with the wheel connected and also thrown out, and should the engine, after some use, not run so fast with no load on as when new, it will probably be found that the springs need tightening or stiffening.

Muffling the exhaust of a two-stroke engine reduces its power much more than in a four-stroke. If the noise of the exhaust is not objectionable, much more power can be secured by using a small muffler or only one when two are generally sent with the engine. In the four-stroke engine turning a part of the cooling water into the exhaust will usually deaden the noise sufficiently. Where water is used for this purpose, care must be exercised that it does not get back into the cylinder through the exhaust valves. A part of the exhaust water in two-stroke engines can be employed to prevent danger from fire resulting from a red-hot exhaust pipe.

There is one very important matter in connection with tanks for gasolene engines in cabin launches or houseboats which ought to be carefully impressed on every manufacturer, boat owner and person who has anything to do with installing. Where the gasolene pipe enters the tank for a space of two or three inches from the piping, that part of the tank should be reinforced with heavy sheet copper riveted and "sweat" on; the pipe extending into the tank should have two lock nuts, one outside and the other inside, and the whole put up hot in half-and-half solder.

GASOLENE LAUNCH TOWING HOUSEBOAT.

The tank is liable to a considerable amount of strain at this point. This is without doubt the weakest part and should be strengthened materially.

When a power boat is to be used for a tender and for towing purposes, it should not be too long, and rather wider than usually constructed. The towing bitts or cleats should be as close to the washboard as possible, and an extra large rudder should be provided. Remembering that this boat is especially designed for power, it should have an ample sized engine with as large a diameter propeller as can be swung, and kept below the surface of the water. The pitch must not be excessive, but the blade surface should be very much larger than the general run of wheels. When you come to consider that a good sized vessel seems to hinder but a little, or slacken the speed of a towboat but slightly, you will readily conclude that a propeller built on the lines of a tugboat's wheel is the proper construction.

If the houseboat has no rudder, it can be towed and steered quite readily by means of a bridle or two lines of equal length from each forward corner to the after bitts of the launch, or the tow line can be attached securely to the bight of a line the two sides of which should form a triangle with a line projected from the two points on the boat where the ends are made fast. In rough weather or for long distances this is the better method, but in smooth water or for short distances, especially if the houseboat has a rudder or means for steering, connect the bow of the launch to the side of the houseboat, then run a "spring" line from the forward bitts of the launch to the after cleat on the houseboat. A stern line is hardly necessary, although it is a good plan to have one, especially if you should want to stop headway or "back" the boat. The launch should be well back on the quarter, projecting at least one-third of her length astern the vessel to be towed. If the propeller is right-handed, much better results and much easier steering will be noticed if the launch is on the port quarter, as the tendency of a right-hand propeller is to swing the launch to port. If the propeller is left-handed, the starboard is the proper quarter for the launch.

A power houseboat is a luxury nearly every one would enjoy more if assured there was no danger of gasolene explosions. The power towing tender seems to possess just the qualities necessary, and a solution of the problem. What the naphtha launch did for sailing yachts can and will be outdone by the towing tender for houseboats.

NIRODHA.

DESIGNED BY M. HUBBE.

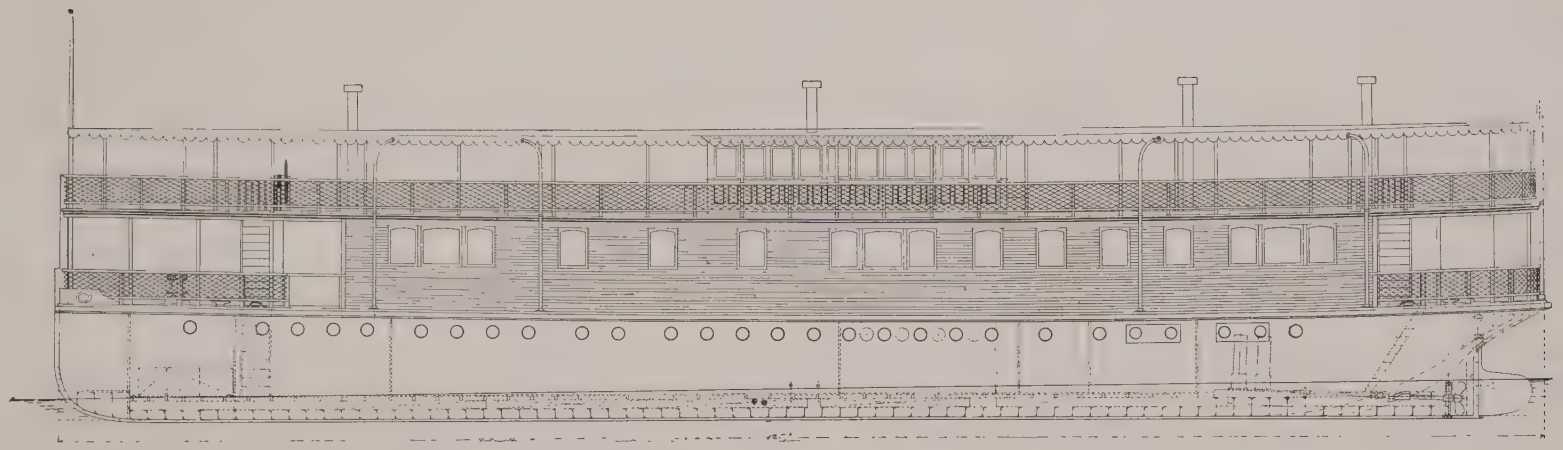
NIRODHA was built by Messrs. T. S. Marvel & Co., of Newburgh, N. Y., for the late Pierre Lorillard. This was not Mr. Lorillard's first experience with houseboats, as this boat was built to replace Caiman, that was burned in Florida.

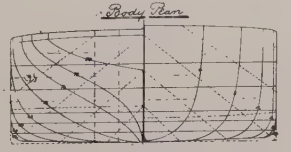
Nirodha is one hundred and twenty-five feet long over all, one hundred and nineteen feet six inches on the waterline, twenty-two feet width of hull, twenty-three feet four inches extreme width over guard rails, and two feet six inches draft. Her displacement at two feet six inches draft is one hundred and thirty-seven tons, and her displacement at two feet three inches is one hundred and twenty-two tons. She has two decks, and on the upper deck amidships is an observatory twenty-five feet long and thirteen feet wide, from which the main deck is reached by a staircase. The main deck is given up to the living quarters of the owner. Forward is a living room sixteen feet long and twenty feet wide, which opens on to a passageway leading aft. On either side of this passageway are two large staterooms, a toilet room on the starboard side and a gun room on the port side. The after cabin is also reached by a passageway. This room is thirteen feet long and twenty feet wide. There is a stateroom on either side of the after passageway, both of which have connecting toilet and bath rooms. Aft of these rooms is the pantry on port side, which connects by dumb-waiter with galley below, and opposite is a wine and storeroom, both entered from the large dining room fifteen by twenty feet.

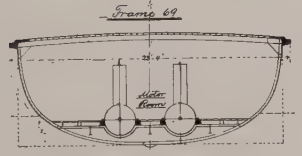
Below the main deck the space has been utilized in the best manner. Each room is of liberal size, and careful attention has been paid to the matter of ventilation. There is a good sized forecastle with swinging berths for the men, from which a passageway leads aft to the servants' sitting room. On the starboard side of the passage are rooms for the doctor, the ship-keeper, cooks and other servants; on the port side are rooms for the pilot, waiters and steward, and a large storeroom. The servants' sitting room is twenty feet wide and fifteen feet long, and aft of this are to be found an ice house, which will hold five tons; a pantry and another storeroom. The kitchen comes next, which is most complete. Then the engine room is reached, which is large and airy and contains besides two twenty horsepower Murray & Tregurtha engines for the propulsion of the boat, a very complete electric plant, which furnishes power for sixty incandescent lights and a powerful searchlight.

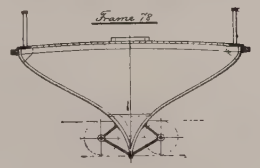
Nirodha carries four boats on davits—two dinghies, one gig and one three horsepower twenty-one-foot launch. The entire upper deck is covered with an awning, affording a fine place for lounging.

The greatest attention has been paid to the fittings and appointments of the boat, and they are superb in every way.









STEEL TWIN-SCREW HOUSE BOAT

Two 25 HP MOTORS

for

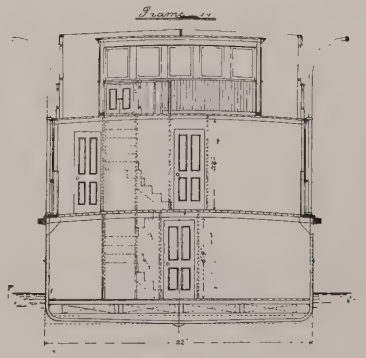
Pierre Lorillard.

Length 125 ft. Beam 22 ft. Hold. 8½ ft. Draft 2½ ft.

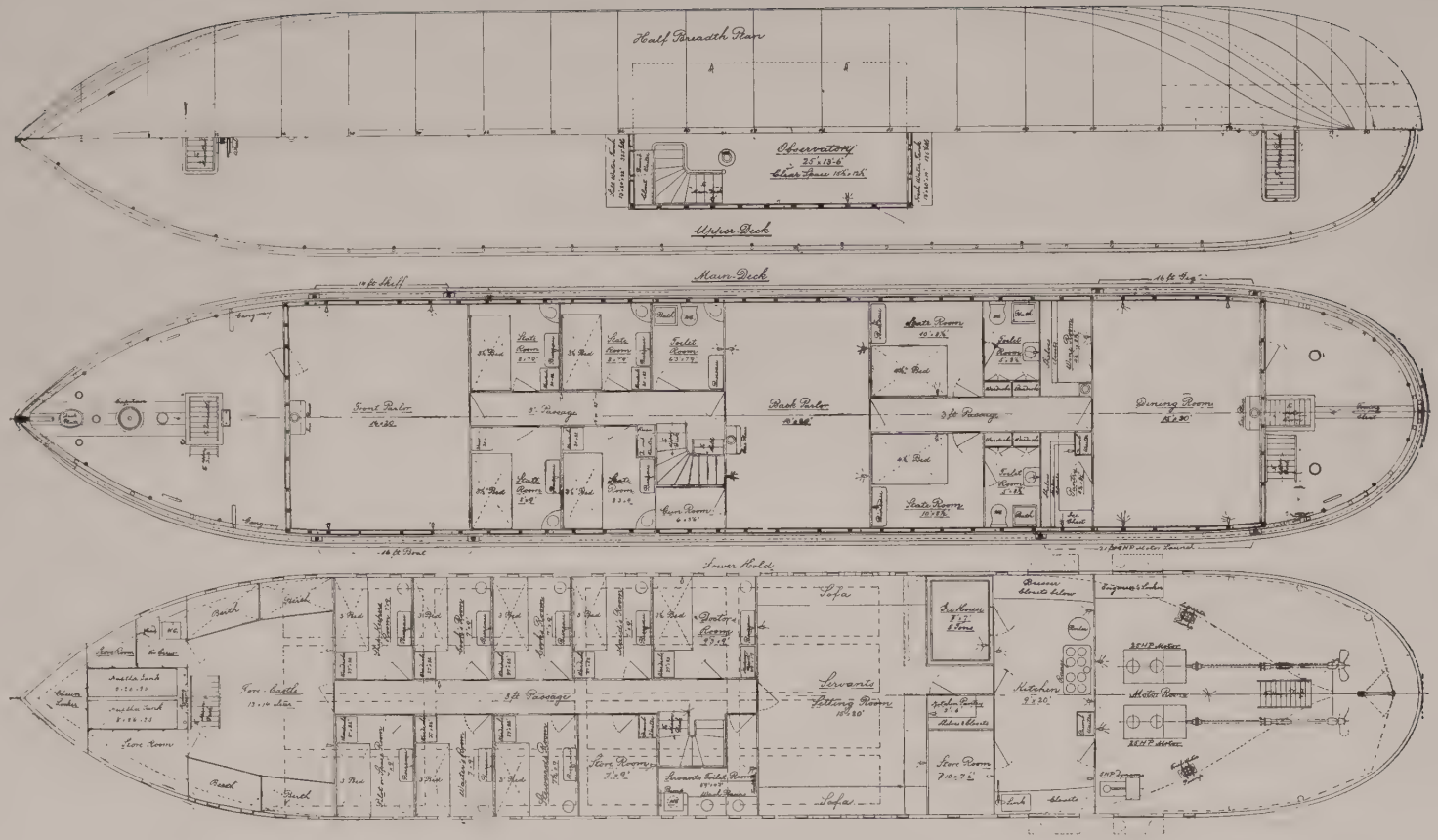
Scale ½ in. = 1 foot

October 1900

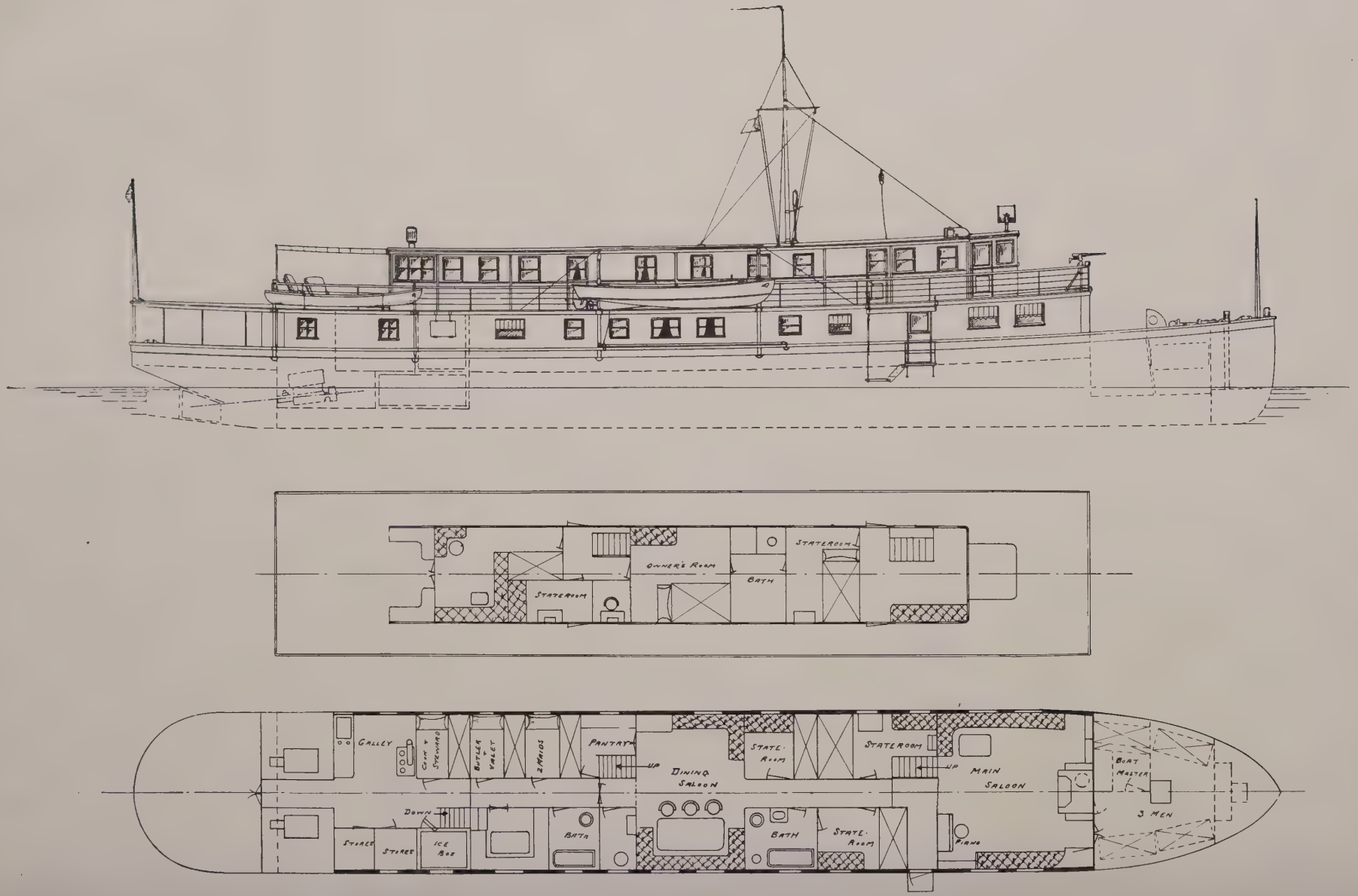
H. Reuther
Naval Architect
17 Battery Place, New York



NIRODHA—OUTBOARD PROFILE AND SECTIONS.



NIRODHA—LINES, CABIN AND DECK PLANS.



ONE HUNDRED AND TWENTY-FIVE-FOOT HOUSEBOAT—OUTBOARD PROFILE, CABIN AND DECK PLANS.

A LARGE CRUISING HOUSEBOAT.

DESIGNED BY SWASEY, RAYMOND & PAGE.

THE design of the one hundred and twenty-five-foot steel houseboat made by Messrs. Swasey, Raymond & Page will interest those whose requirements demand a vessel with some seagoing qualities and one that has liberal accommodations. The boat is adapted for coastwise and inland cruising, but for southern use less draft would be preferable. She is one hundred and twenty-five feet over all, one hundred and twenty feet on the waterline, seventeen feet six inches breadth and four feet six inches draft.

A water-tight door cut in the starboard side well forward gives access to a steerage. Forward of this entrance passage is the main saloon seventeen feet square.

A passage three feet wide runs aft to the dining saloon, which is twelve feet long and seventeen feet wide. On the port side of the passage are two staterooms, the larger being seven by thirteen feet and the smaller seven by eight feet. Opposite on the starboard side is a stateroom seven by ten feet and a bathroom seven by eight feet.

From the dining saloon aft to the galley extends another passage three feet wide. On the port side is the butler's pantry, a maid's stateroom and another for the butler and valet. On the starboard side of the passage is a wash room, a servants' bath and the mess room.

The galley is nine feet long and thirteen feet wide. A room for the cook and steward is reached from the galley. On the starboard side of the galley is a companionway to the hold and a large space is set apart for the ice-box and the storerooms.

Aft of the galley is the engine space. The vessel is driven by twin screws, the motive power for which is furnished by two powerful gasolene engines. Arrangements are made for heating the vessel by hot water and lighting her by electricity.

A wide companionway from the main saloon and another from the dining room lead to the house on the upper deck. This deck is ninety feet long and there is a space on the sides between the house and the rail of four feet.

The pilot house is five feet long and six feet wide. Aft of this is a living room ten feet wide and twelve feet long. Just aft is a stateroom ten feet wide and eight feet long. A bath six feet by seven feet separates this room from the owner's sleeping cabin, which is ten feet wide and eleven feet long. On the port side of the owner's room aft is a vestibule, on the starboard side of which is a toilet and a stateroom eight by nine feet. The after end of the upper deckhouse is given over to a smoking room ten feet wide and eight feet long. Just outside this cabin are shelter seats for use in bad weather.

Accommodations for the captain and three men are found under the forward deck. Pipe berths are placed in the engine room for the engineer and his assistants. Three boats are carried, a launch, a gig and a sailing tender.

RANCOCAS.

RANCOCAS.

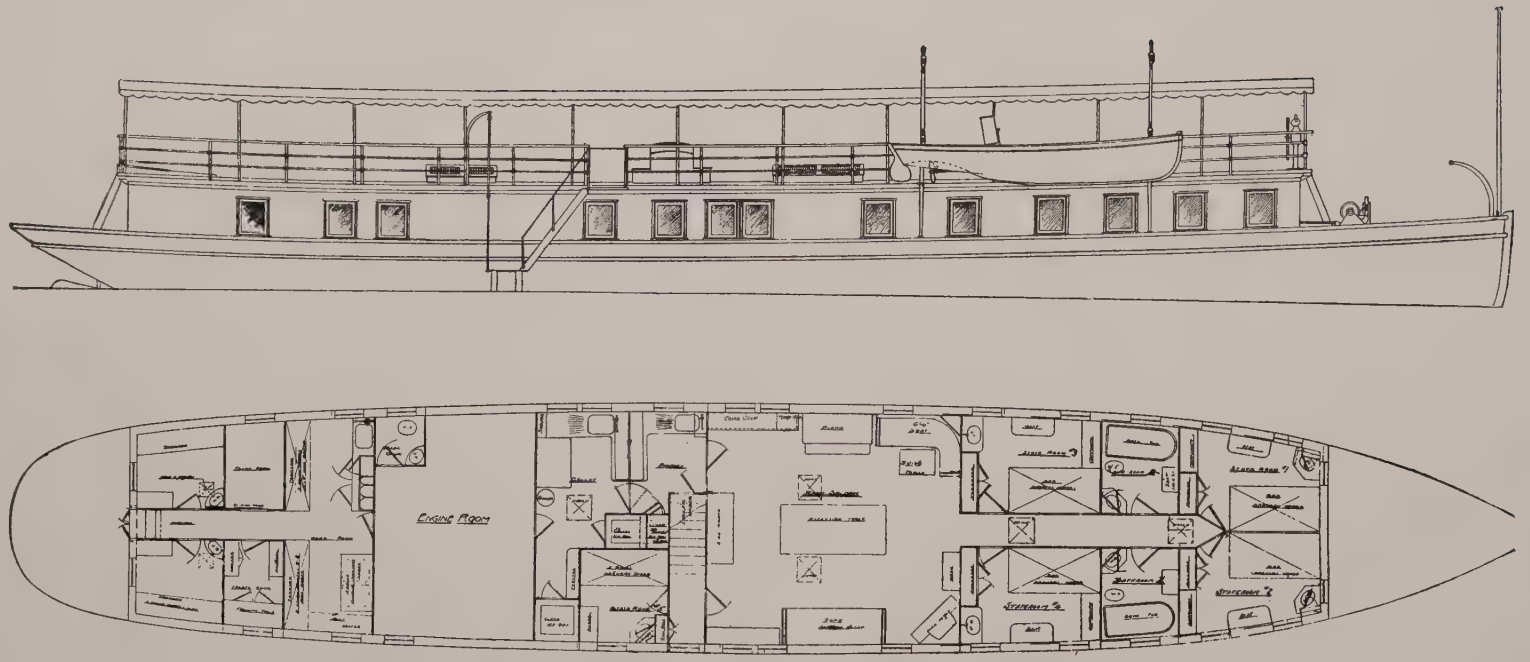
OWNED BY CLARENCE R. DOLAN.

RANCOCAS was designed by Mr. Clinton H. Crane, of the firm of Messrs. Tams, Lemoine & Crane, for Mr. Clarence R. Dolan, of Philadelphia, Pa. The boat was intended for use on Chesapeake Bay, and in order that the many tributaries of the bay might be accessible, it was necessary to keep the draft of the boat down to less than three feet. To design a boat one hundred feet on the waterline with a draft of only two feet nine inches and make her seaworthy is a difficult problem, but the designer has met this contingency, along with several others, with the result that Rancocas is a very seaworthy, roomy and good-looking boat.

Her arrangement is ideally comfortable, and the interior decorating is very handsome and symmetrical. Her interior is colonial, mahogany up to the chair rail and white above. This lends a feeling of warmth in cold weather which some boats with their entire white finish lack.

Going below from the upper or promenade deck one lands in a sort of vestibule. On the after side of the vestibule is a door opening into stateroom No. 5, a good-sized room nearly seven feet square, and fitted with two beds, bureau, set basin, etc. The gun rack is in a handy place at the foot of the cabin stairs in the vestibule, and opposite is a door opening into the main saloon or living room. This apartment is very large, being sixteen feet wide and eighteen feet long. It is amply lighted and ventilated by six good-sized windows. The fittings are most complete, there being a fireplace, a piano, desk, china closet, sideboard, sofa and bookcases. Opening from the forward end of the main cabin is a passageway which leads to the principal state and bathrooms. Stateroom No. 3 is first reached; this room is ten feet long and seven feet wide. The apartment is fitted with a bed three feet wide, set wash basin, wardrobe, chiffonier, etc. On the starboard side opposite is stateroom No. 4, which is fitted up in the same manner as No. 3. Next forward come two bathrooms, one on either side. They are five feet six inches wide and six feet six inches long. In each of these rooms is a porcelain tub five feet long, water closet and set marble basin. Forward of the bathrooms and in the bow of the boat are staterooms Nos. 1 and 2. These rooms are ten feet long and seven feet wide. In each there is a wide bed, chiffonier, wardrobe, set marble wash basin, etc.

A door on the port side of the main cabin leads aft into the pantry, which is fitted up with dressers for china, etc., sink and draining boards, and a linen closet. Further aft and connected with the pantry by a swinging door is the galley, where there are a French range, two ice-boxes, one for game and the other for regular stores; a sink, dressers, etc. Aft of the galley is the engine room, eleven feet long by sixteen feet wide. On the port side of the engine room is the crew's water closet. Aft of the engine room is the ward



RANCOCAS—OUTBOARD PROFILE AND CABIN PLAN.

room, which is six feet long and extends the full width of the vessel. On the after partition on either side are two gas-pipe berths for the crew. Aft of the wardroom on the starboard side is a valet's room, and opposite on the port side, is a trunk room. Next aft come two staterooms, one on each side. They are six feet three inches long and six feet wide. The one on the starboard is for the captain and engineer, while the one on the port side is for the steward and cook.

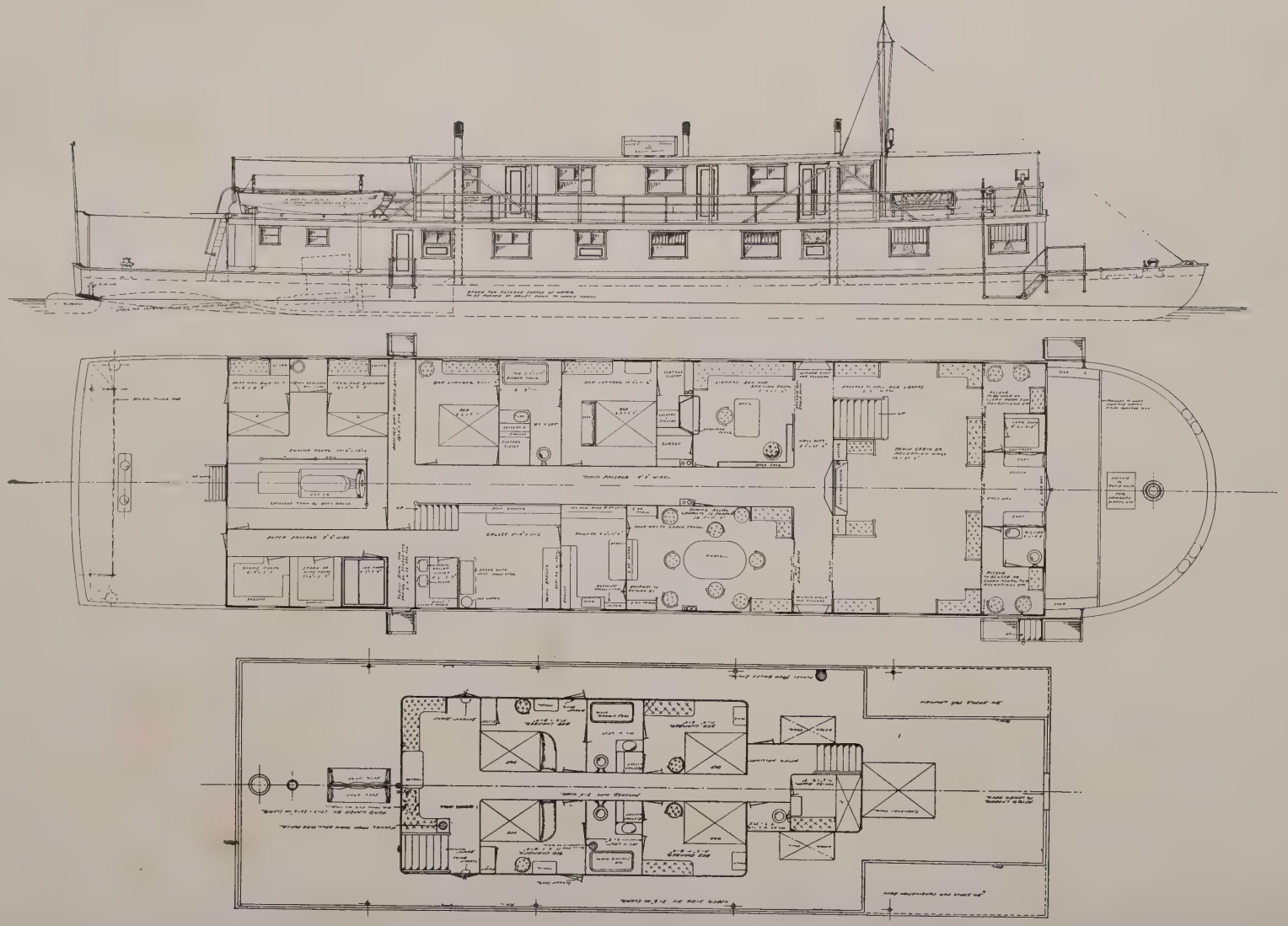
There is eight feet of deck aft of the cabin house, and fifteen feet forward of it. There is an unobstructed space eighteen feet by eighty-five feet on top of the cabin house. This deck is covered by an awning. The boat is steered from the forward part of the upper deck.

Her dimensions are as follows: Length over all, one hundred and eight feet; waterline, one hundred feet; freeboard, forward, six feet eight inches; least, three feet nine inches; taffrail, four feet eight inches; breadth, seventeen feet six inches; draft, two feet nine inches.

Rancocas has twin screws and is driven by two seventy-five horsepower Standard motors. Her tanks have a capacity of one thousand five hundred gallons, and with this amount of fuel can cover one thousand miles. The boat is lighted throughout by electricity, and is heated by hot water. The crew comprises nine men—namely, captain, engineer, steward, cook and five sailors.

Two boats are carried on the davits—a launch on the starboard side and a dinghy on the port side.

A false funnel is a matter of taste with the owner, but is a very great help for ventilating purposes.



A RIVER HOUSEBOAT—OUTBOARD PROFILE, DECK AND CABIN PLANS.

A RIVER HOUSEBOAT.

DESIGNED BY SWASEY, RAYMOND & PAGE.

IN the design for a river houseboat illustrated on page 126, Messrs. Swasey, Raymond & Page have secured a vessel of very light draft with large internal space which has been disposed of to the best possible advantage.

The hull is little more than a huge scow with a tunneled stern and a semi-circular bow. The freeboard has been kept as low as was possible and the cabin house occupies the better part of the main deck. Such a craft would prove unwieldy for any other use than that for which she was designed. The vessel is one hundred and twenty-two feet six inches over all, one hundred and eighteen feet on the waterline, twenty-eight feet breadth and eighteen inches draft.

There are gangways forward and aft on both sides. Coming aboard by the forward gangway one reaches the large semi-circular deck. In order to reach the main saloon one passes through a sort of vestibule. On either side of this vestibule are alcoves. The one on the port side contains a large coat closet, and from the starboard one a lavatory is reached.

The main saloon is sixteen feet long and twenty-seven feet wide. It is fitted up most luxuriously and contains all the fittings one would expect to find in the living room of a country house. A passage four feet wide running athwartships separates the main saloon from the rest of the quarters on the main deck. From the athwartships passage running aft is another passage four feet wide. On the port side of the fore and aft passage is the library, eleven feet square, two staterooms and with a connecting bath. On the starboard side is the dining saloon, twelve by eighteen feet, a butler's pantry seven by eleven feet, and a galley eleven feet square. Running aft from the galley are supply and cold storage rooms. A door in the hull allows supplies, ice, etc., to be taken directly into the kitchen and offices.

The engine room, ten by seventeen feet, is in the after end of the house. The boat is equipped with a powerful gasolene engine which would drive her at a speed of six miles an hour. On the port side of the engine room are two large staterooms and a lavatory. One of these staterooms will be occupied by the engineer and his assistant. The other is for the cook and steward.

A wide staircase from the main saloon leads to a smaller cabin on the deck above. Extending aft from this cabin is a passage three feet wide. On either side there are two staterooms, each eight by eleven feet, separated by bath rooms six feet square. At the end of the passage there is a maid's cabin and lavatory and a stairway to the lower deck.

There are seventeen feet of unobstructed deck space forward of the upper cabin house and four feet space around the sides. Water tanks are placed on the two upper decks which give sufficient pressure for running water in all parts of the boat. The gasolene tank is on the upper deck over the engine.

Two boats are carried, a launch and a gig.

RUFFHOUSE.

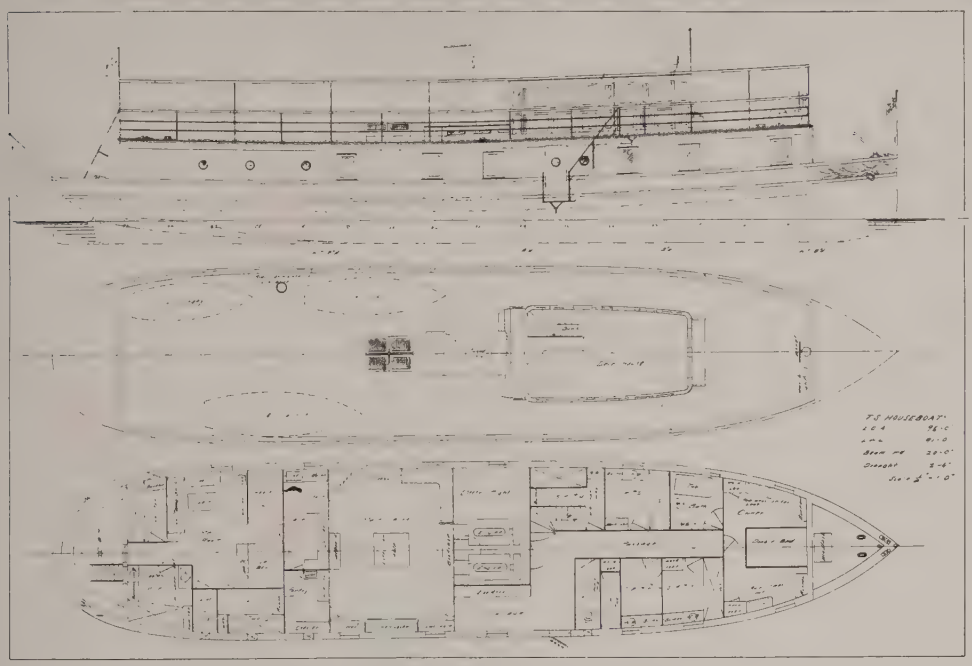
OWNED BY A. R. WHITNEY.

RUFFHOUSE was designed by Messrs. Sadler, Perkins & Field in 1903 for A. R. Whitney, Esq., of Morristown, New Jersey, and was built by the Nilson Yacht Building Co., of Baltimore, Maryland. As shown in the plans, the vessel is of the shallow draft, twin-screw, tunnel stern type, ninety-six feet over all, ninety-one feet on the waterline, twenty feet breadth and two feet six inches draft.

The arrangement of the vessel was carefully executed to meet the requirements of the owner's family, all the owner's quarters, with the exception of the main saloon, being forward of the machinery space. Just aft of the forecastle deck is a large double stateroom for the owner extending the entire width of the boat, with a private bath opening into it from the port side, following which are four staterooms, two on each side of the boat, fitted with two berths each. Just aft of the last stateroom on the starboard side an extra toilet is provided.

Each stateroom is fitted with a large wardrobe, and in three of the four washbasins are also installed. Aft of the owner's sleeping quarters is the engine room, following which comes the main saloon, which connects with the forward quarters by a private passage running the entire length of the engine casing, in which is situated the linen locker, and is fitted up in an attractive way as

RUFFHOUSE.



RUFFHOUSE—OUTBOARD PROFILE, DECK AND CABIN PLANS.

a foyer hall and general lounging place.

Aft of the main saloon comes the galley, pantry and crew's mess room, together with the staterooms for the captain, two engineers, steward and cook, while two deckhands are berthed in swinging pipe berths in the mess-room.

As the vessel was intended for southern cruising, principally in Florida and adjacent waters, ample provision for cold storage and an unusually large supply of ice was made. The main ice-box, extending from the hold to the upper deck, is five feet by five feet square, a double entrance being provided to both pantry and galley.

Access to the upper deck is obtained by the main companion, which comes just forward of the engine space, opening out of the vestibule, and leads to a large deckhouse on the upper deck, which is fitted as a library and smoking room. An abundance of wicker arm chairs and cushioned lockers makes this room the most attractive spot on the boat. The after end of this house is fitted up as a shelter seat, while at the forward end there is an observation seat for use in pleasant weather.

For ventilating purposes, a low casing was built over the engine and messrooms, and a false stack fitted for the same purpose, aft of which the upper deck has been kept as clear as possible, and affords an excellent promenade for the owner and his guests, to say nothing of many square feet of deck for a dance or afternoon reception.

One of the special features of this vessel is the water-tight door cut into the starboard side of the boat leading directly into the main vestibule opposite the main companion, to be used by the owner in pleasant weather, making an easy entrance through the side of the vessel from the small boats. In rough or stormy weather the companion ladder leading directly to the upper deck will be used while the water-tight door is battened down.

All the staterooms, main saloon and deckhouse are connected with the pantry and stew-

ard's room by call bells and telephone, while electric lights illuminate the interior and exterior of the ship.

Three boats are carried on davits stepped on the outside of the rail and footing up on the upper fender, viz., an eighteen-foot launch to starboard, a sixteen-foot gig and fourteen-foot dinghy to port. Two St. Lawrence skiffs and a canoe make up a rather complete small-boat outfit.

The propelling machinery consists of two four-cylinder, thirty-five horsepower White & Middleton gas engines, while a three kilowatt General Electric generator supplies electric light. The gasolene is stored in two cylindrical tanks under the cabin floor forward of the engine room, built up of one-quarter inch boiler iron, and are not as usual situated at the bow of the vessel. This is an invariable rule of the designers in shallow draft vessels, as the concentration of the machinery weights amidships prevents the hogging so deplorably evident in the average shallow draft vessel constructed.

This boat was built on the designers' guarantee of two feet six inches draft, and their estimated speed was six and three-quarter knots, and it is of interest to know that the speed on the trial trip was seven and one-half knots, and the vessel left her builders' yard fully laden at a draft of exactly two feet five inches.

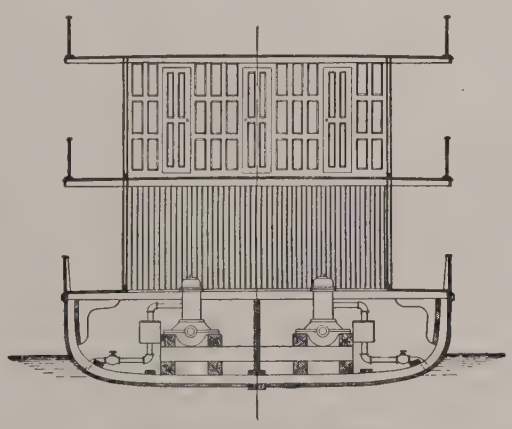
WHIM WHAM.

WHIM WHAM.

OWNED BY R. V. PIERCE, M.D.

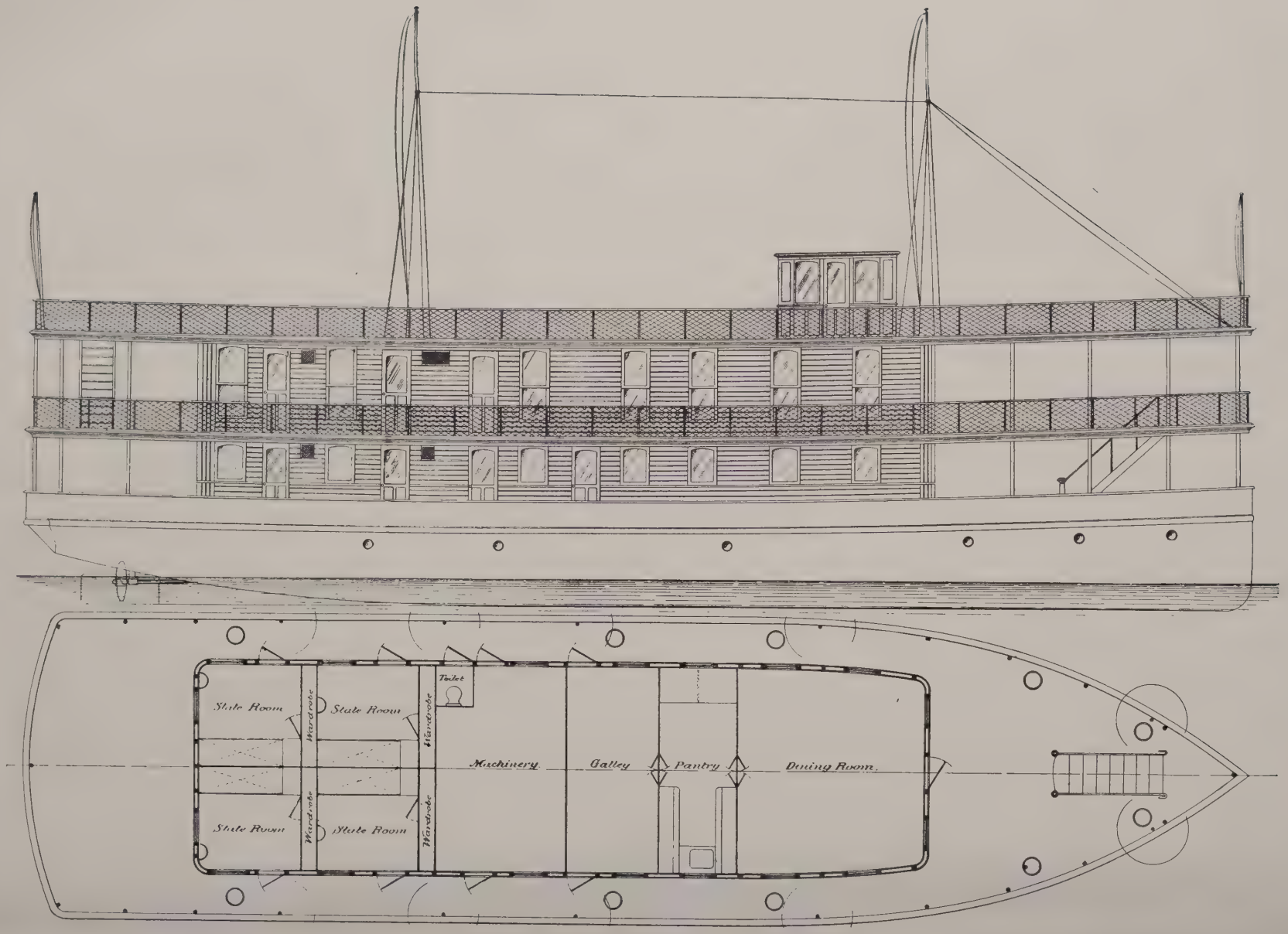
THE conditions surrounding the navigation of the Florida coast line, and particularly the inland lagoons and rivers, are so different from our Northern waters, that in 1897 Dr. R. V. Pierce, of Buffalo, New York, had a craft especially designed to fulfill these requirements. The principal features are light draft, so as to be able to navigate the shallow rivers and lagoons; twin screws to give great maneuvering power in the narrow and tortuous channels; a light hull, with numerous water-tight compartments, so that striking a snag or knocking a hole in her bottom means nothing more serious than partially filling a few compartments with water and increasing the draft somewhat; sufficient strength of hull, so that outside runs of from fifty to sixty miles may be made with safety; large and high staterooms with ample ventilation; wide passage all around with covered deck and side curtains to protect the living quarters from the direct sun, and fine copper wire netting or screens for all windows, doors and openings to keep out mosquitoes and insects generally, so common in tropical climates.

The principal dimensions of Whim Wham, for that is the boat's name, are: Length over all, ninety-one feet; length on load waterline, eighty-four feet six inches; breadth extreme, twenty-three feet six inches; draft in cruising trim, with all equipments and supplies on board, just under thirty inches. The hull is constructed of oak and cypress, divided into twelve water-tight compartments, which are each connected separately with a powerful bilge ejector to free them from water. The hull contains the tanks, machinery, stores and all heavy supplies. For a distance of twenty-four feet from the stem the main deck is unobstructed, after which comes a dining room fourteen feet by sixteen feet; next a pantry, six feet by sixteen feet, and abaft of this a galley seven feet by sixteen feet, all connected by swinging doors. Abaft of the galley is the engine room, ten feet by sixteen feet, and aft of this there are four staterooms for the crew, each room being eight feet by nine feet, with ample closets, wardrobes and a toilet room.

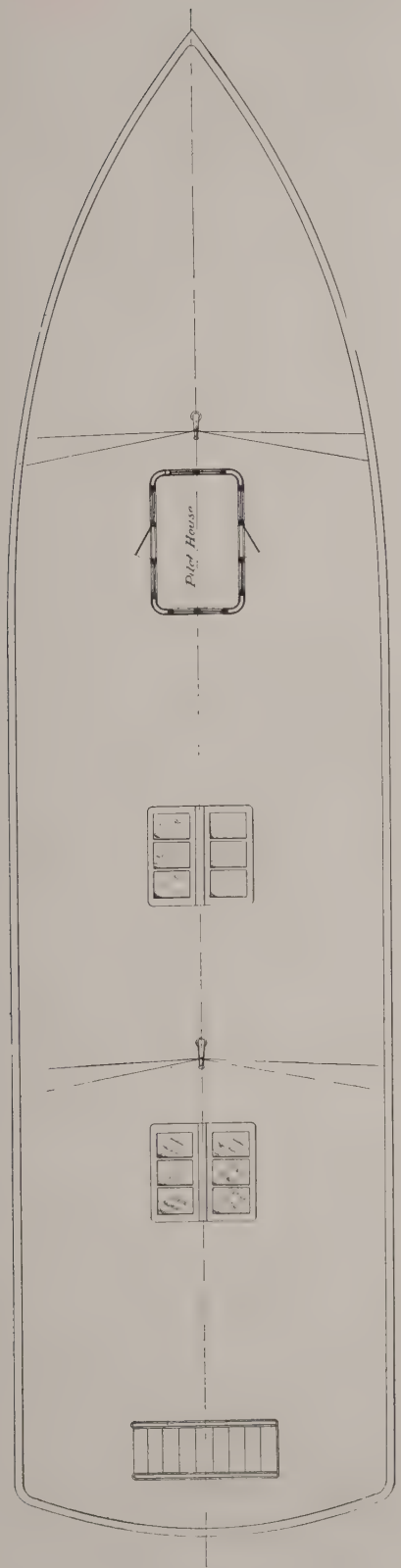


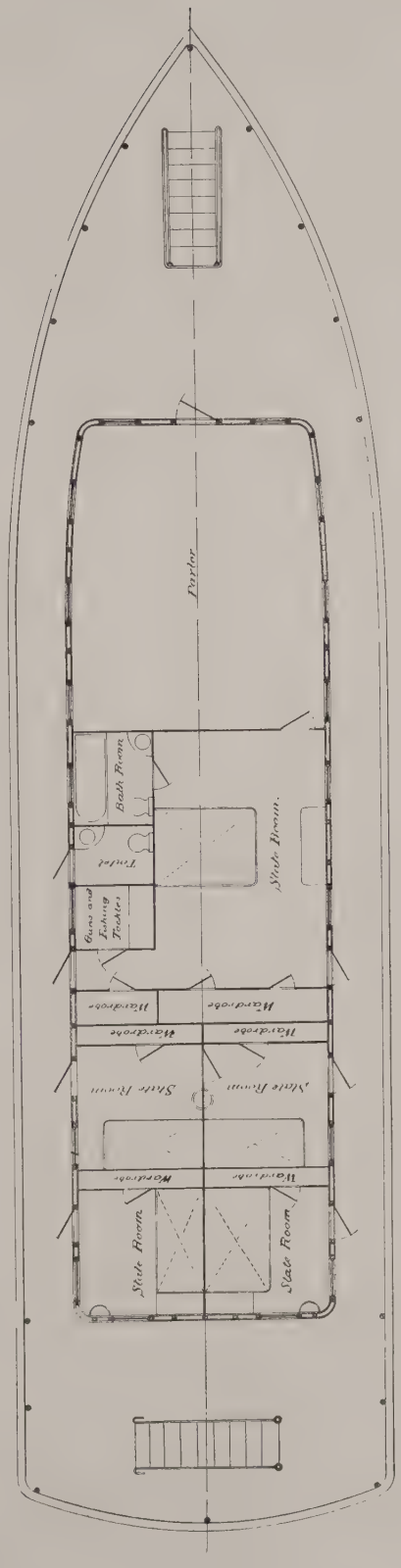
WHIM WHAM—MIDSHIP SECTION.

From the forward main deck to the saloon deck there is a wide stairway, with hand rails and newel posts. The saloon deck forward is twenty-four feet in length; then comes a saloon, or parlor, sixteen by nineteen



WHIM WHAM—OUTBOARD PROFILE, CABIN AND DECK PLANS.





WHIM WHAM—CABIN AND DECK PLANS.

feet, with piano, book-cases and all the comforts of a summer home. The owner's stateroom is eleven feet by sixteen feet, with large closets, wardrobe, private bath and toilet. Then comes another toilet room, and another room for guns, fishing tackle, etc. Abaft of the latter are four staterooms, each eight feet by ten feet, the forward two connecting. All staterooms have stationary wash basins with running water. With the exception of a pilot house, with chart room, and two skylights, the upper deck is unobstructed; it is surrounded by a substantial railing with steamboat netting, and the owner often enjoys a spin on his wheel on this deck.

The motive power of this craft consists of two White & Middleton thirty horsepower single-cylinder gasolene engines, which give a speed of eight miles an hour in smooth water. The naphtha tanks are ample and will carry a thirty days' supply. Provisions were made for stowing double the quantity in barrels, but during four seasons' use no occasion has arisen for doing this. The fresh-water tanks are very large, with leaders to upper deck for carrying the rain water, which has been found sufficient for all purposes. The boat is lighted by electricity and has a large storage battery, which can be charged while the boat is under way, or by disconnecting one of the main engines and running it when at anchor.

Whim Wham was designed by Mr. Henry J. Gielow, of New York city, and to avoid the long coastwise trip, was built at Jacksonville, Fla.

THE UPPER DECK OF HOUSEBOAT BUCKEYE.

THE STERNWHEEL HOUSEBOAT BUCKEYE.

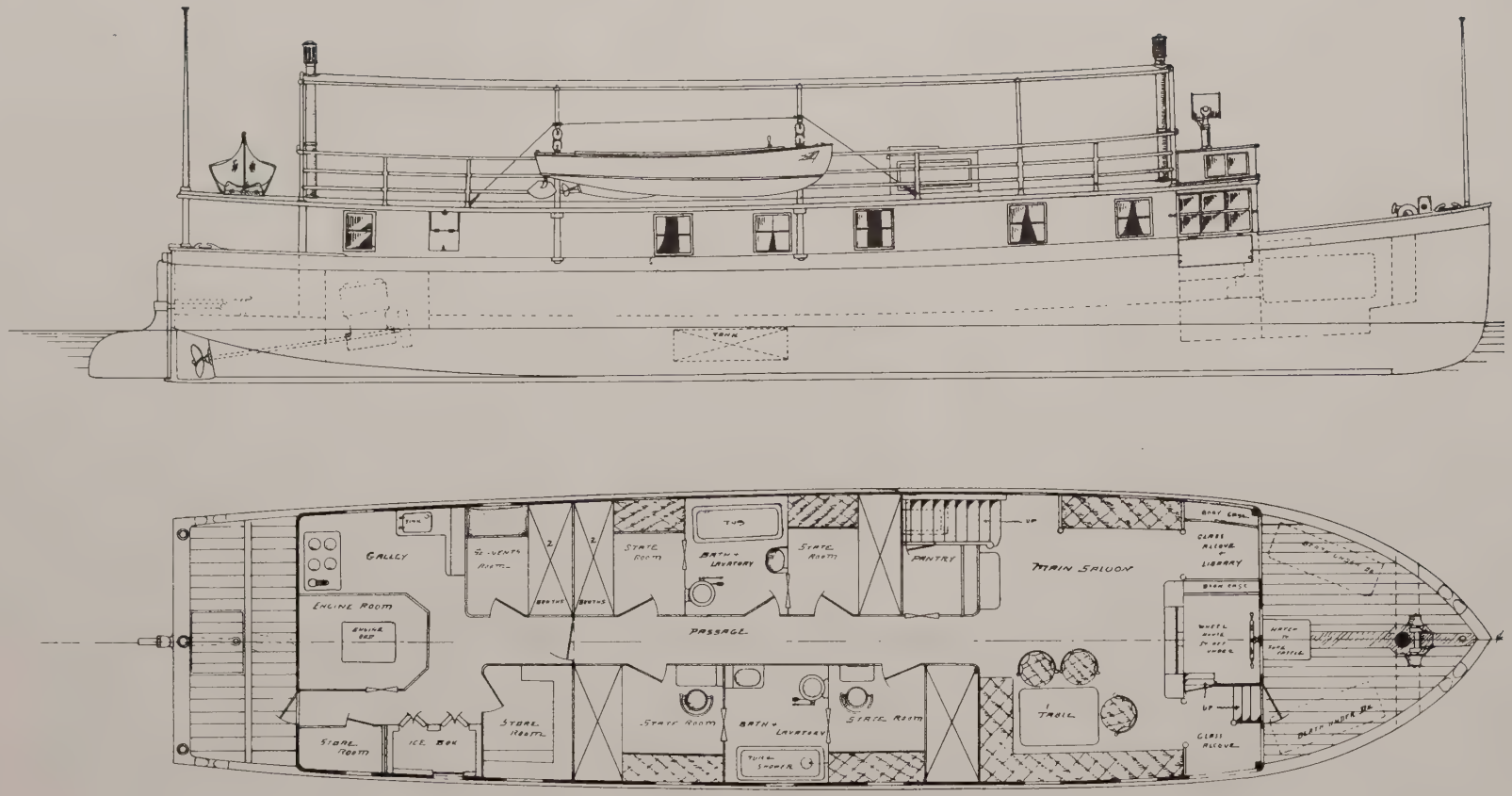
THE houseboat Buckeye is an ideal craft for use in the shallow waters of the southern coast, and is designed and equipped for comfort and convenience. She was built in 1892 by Mr. J. McFadden, and remodeled in 1899, and is ninety feet over all, seventy-eight feet on the waterline, twenty-two feet breadth and two feet two inches draft, and is fitted with a forty-two horsepower Norman engine and rear wheel. There are five staterooms, a lavatory and all appointments; the most attractive saloon imaginable forward; dining room and galley aft, and ample accommodations for the captain and crew.

Buckeye carries two boats and a launch; the tanks will hold over two thousand gallons of fresh water, and the beveled gear of the crank shaft is so arranged that by a lever forward the steersman can reverse the paddle wheel while the engines are running at full speed.

Quite the most remarkable feature of this handsome boat is the roof garden on the upper deck. It is inclosed by a neat iron and wire railing, is roofed with a tight deck, and furnished with canvas curtains for bad weather. Forward is the wheel and reversing device. This deck is furnished with attractive rugs and comfortable wicker furniture, and ornamented by potted palms and bright foliage plants, and the brilliant orchid-like "air plants" in hanging baskets.

Altogether Buckeye is a comfortable, attractive and completely furnished floating house, in which life on the water comes very near to the ideal.

BUCKEYE.



SEVENTY FOOT HOUSEBOAT—OUTBOARD PROFILE AND CABIN PLAN.

A SEVENTY FOOT CRUISING HOUSEBOAT.

DESIGNED BY SWASEY, RAYMOND & PAGE.

THE design of the motor houseboat, illustrated herewith, combines some unique and unusual features, among them being the stern, which is cut off square, suggesting the small power tender rather than the good sized houseboat. The client for whom Messrs. Swasey, Raymond & Page made the design put a restriction on over all length, and in order to obtain the necessary amount of displacement and interior room, overhangs were abandoned, and the boat is the same length over all as she is on the waterline. She is seventy feet long, sixteen feet extreme breadth and two feet ten inches draft.

The boat is built of steel throughout, and the sides of the hull are carried up to form the cabin house. The rail extends all around, and this gives the needed break in order to reduce the apparent height.

The roof of the cabin house is utilized as the promenade deck. It is sixteen feet wide and for a length of forty-six feet it is unobstructed except for the companionway. An iron rail runs around the edge, and heavy iron stanchions support an awning, which is practically permanent, as it is not intended to take down except under trying conditions.

A companionway three feet wide on the port side leads directly into the after end of the main saloon, which room is fifteen feet square. On each side are two windows, and additional light and air are obtained from the alcoves located on each side of the wheel house. These alcoves are inclosed in heavy plate glass and are intended for use as lookouts for the owner in inclement and boisterous weather. By stepping into one of these alcoves one can see at a glance what is going on outside, without exposing oneself in any way. Access to the forward deck and the wheel house is had from the starboard alcove, while the one to port is fitted with book shelves and is used as a sort of library. The wheel house is four feet by five feet. The floor is raised, so that the helmsman may have an absolutely unobstructed view in every direction. The vessel is handled at all times from the wheel house, and on top of it there is a powerful searchlight.

The main saloon is comfortably fitted. On the port side, close to the library alcove, is a transom. Opposite is another transom which returns around the after bulkhead as far as the passageway. In this corner is placed the dining table, at which seven persons can be served comfortably. The piano is aft, and placed against the wheel house partition is an open fire-place, so that the dampness can be overcome in continued foggy or rainy weather. The location of the saloon and the arrangements made for the ventilation give assurance that it will be cool and comfortable on the hottest day, even though the boat may remain at anchor.

On the port side adjoining the saloon is the butler's pantry, three feet by three feet six inches. The cabin china is kept here, as well as the linen, and a small ice-box placed under

the companionway is reached from the pantry.

Proceeding aft, one finds two staterooms with a bath between. The staterooms are each six feet by six feet six inches, while the bath is five feet six inches by six feet. Both of the staterooms are fitted alike, with one exception—the after one having an upper berth. One window in each of these rooms affords the requisite amount of air and sunlight. The bathroom can be reached directly from each of the rooms, as well as from the passageway, which is two feet six inches wide.

On the starboard side opposite are two more staterooms and a bath. The bath is the same size, but the staterooms are considerably larger, being six feet by eight feet. Both these rooms are fitted with iron beds, desk, lounge, easy chair, etc. There is a window in each of these rooms, and they connect with the bathroom, as do the rooms on the opposite side.

The two bathrooms are equipped with full size tubs, patent closets, set wash basins, etc. Hot and cold, fresh and salt water may be drawn in the tubs or basins.

A door at the after end of the passage separates the galley, engine room and servants' quarters from the owner's rooms. On the port side is a servants' stateroom, six feet by six feet, fitted with two berths. Opposite to starboard is a storeroom, five feet by six feet, where a large amount of supplies can be carried. Adjoining this storeroom is a large ice-box, and still aft is another storeroom of smaller size. The ice-box is filled from the outside, and this is a very great convenience. It has a capacity of a ton of ice.

The galley is on the port side, and is four feet six inches by nine feet. Here is a coal stove and all other necessary equipment. The gasolene motor is incased in a glass partition and ventilation from above carries off all gases and odors. The motor room separates the galley from the storeroom, although, as a matter of fact, the engine is in the galley itself. A passage on the starboard side of the engine space gives access to the after deck, which is six feet wide and covered. This gives an excellent lounging place for the crew, and they are protected and out of the way as well. The deck forward of the cabin house is eleven feet long, and a hatch leads to the forecastle below, where there are quarters for two men, or more, if they are carried.

A sixteen-foot launch is carried on the starboard davits. A market boat is carried to port, while on the upper deck in chocks is a birch canoe, used by the owner when lying in protected waters.

This vessel was designed with care and study. She is a very good example of the really substantial type of moderate speed power houseboat. Such a vessel is suitable for making outside passages along the coast with safety and reasonable comfort.

A SIXTY FOOT CRUISING HOUSEBOAT.

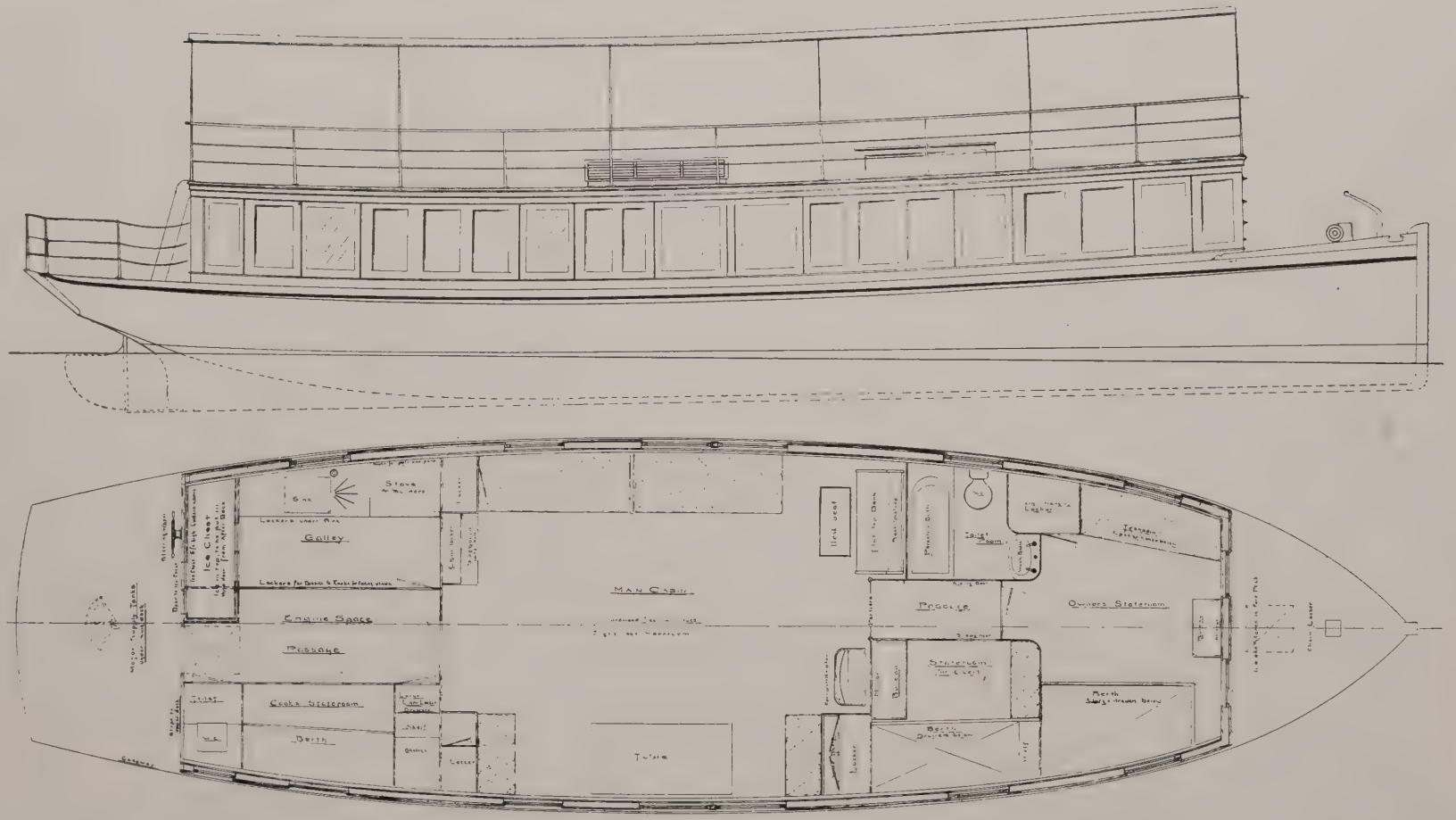
DESIGNED BY CHARLES D. MOWER.

WHILE possessing all the comforts of a houseboat in the way of living accommodations, a boat of this type is capable of summer cruising on such waters as Long Island Sound and the Great South Bay, or the inland water ways of New York State, and is especially adapted for winter cruising southward and in Florida waters. The design was drawn to accommodate the owner and one or two guests only, so an extensive arrangement of sleeping quarters was not desired. The general arrangement shows a large main cabin in the middle of the boat.

In addition to serving as a living room, this cabin was to be used as a studio and work room, and for this reason an unusually large skylight was placed overhead, and large double windows on either side. As a general living room the double length of sofas on the port side makes a comfortable lounging place, which can be made up into berths at night if necessary. The alcove at the forward end makes a place for a large desk, which is not only a convenience but almost a necessity to the average owner. At the aft end on the port side is a sideboard with china closet above, and a small locker at the side. On the starboard side the table occupies the middle portion with a small upholstered seat at either end, and a convenient arrangement of lockers. At the forward end is an open grate yacht stove for comfort in cold and damp weather. The cabin is about eighteen feet by fourteen feet, which would make a large room even in a house, and has seven feet of headroom. The finish was to be of natural wood, with beams and framing exposed, and panels between all, stained to a dark, dull finish. The upholstery was to be leather, and the furniture of very simple design.

The living accommodations are forward, and comprise two staterooms and a bath. The owner's room is in the forward end of the house in order to get light and ventilation from windows on three sides. The guests' room is smaller. The bathroom is quite large, having a good size tub, fixed wash basin and water closet. The floor of this room was to be tiled, and the plumbing all exposed and thoroughly up-to-date in every particular. While not opening directly from either stateroom, the toilet is easily accessible from both, as well as from the main cabin, by a passage cut off by a portiere.

The working part of the boat is all aft the owner's part, and, though the space is small, it is arranged in such a way as to give the necessary room to work. The motor is installed in the passageway, protected by brass handrails on the side where people must pass it. The galley is large, having the regular stove, sink, lockers and cupboards. A feature worthy of notice is the ice-chest, unusually large and built so that the ice is put in from the deck outside, while the stores and food are reached through doors in the galley. A small stateroom on the starboard side gives a place for the cook and engineer, and just


Galley
Ice Closet
Lockers under Sink
Lockers for Books & Racks for Fishing Rods
Stove
Sink
Camp's Space
Passage
Cooks Stateroom
Berth
Toilet
Main Cabin
Transom Lights
Transom Opening Sash
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Owner's Stateroom
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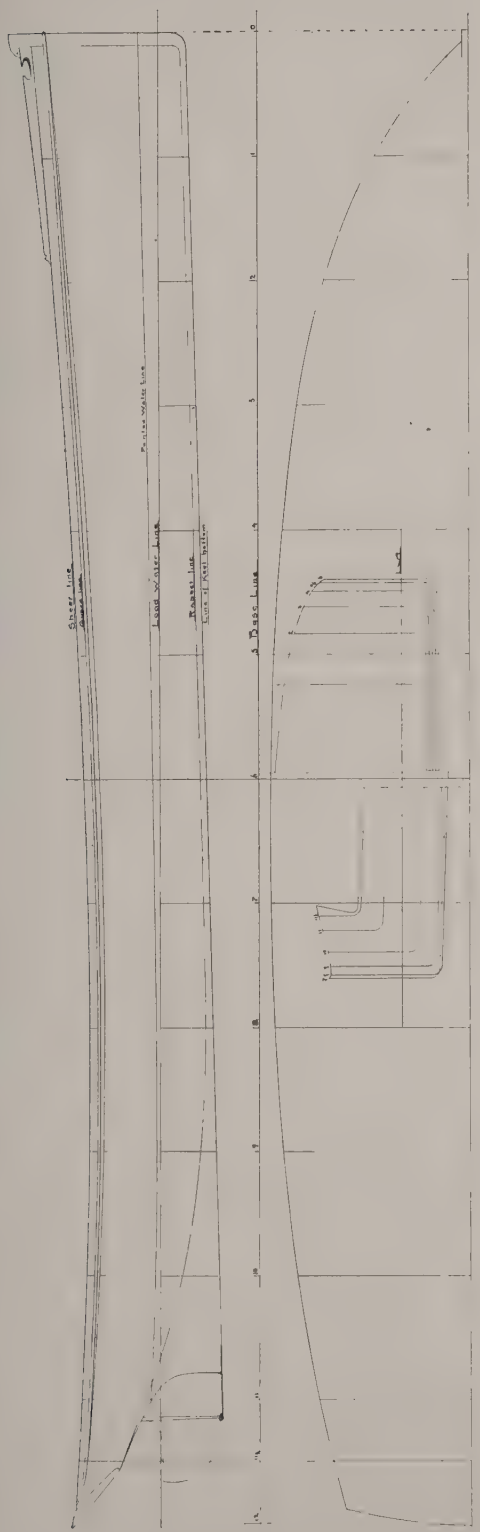


SIXTY FOOT HOUSEBOAT—LINES AND BODY PLAN.

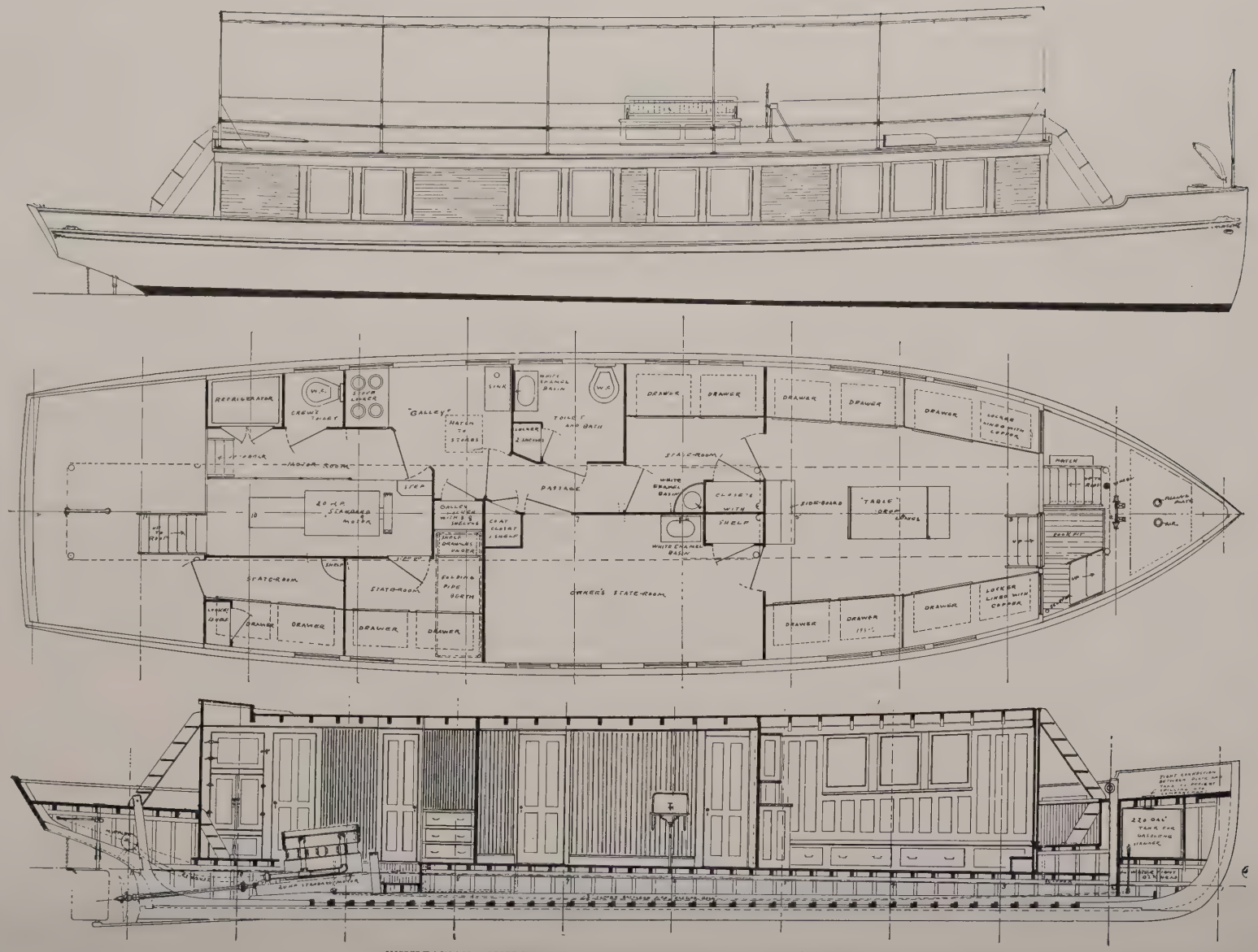
forward of this is a large locker for linen.

The boat is to be handled from the after deck, the steering wheel being placed on the aft end of the house with the controlling levers of the motor conveniently placed near at hand. The space under the deck at the ends is utilized for stores, gasolene supply tanks, etc. On top the house is a big promenade deck covered by a double awning with a heavy rail at the sides. This deck is unobstructed, except for the skylight and the fresh water tanks which form settees. The boats are carried on davits, hoisted above the promenade deck, where they can swing inboard.

The dimensions of the hull are: Length over all, sixty feet; length waterline, fifty-five feet; breadth, sixteen feet; depth, four feet six inches; draft of water, extreme, two feet six inches.

The design shows a hull of simple and cheap construction, yet strong and heavy enough so that the boat can stand the hard usage encountered in canal work, and can be run aground without danger of straining. The specifications call for yellow pine in almost every part of the hull; the framing being heavy, the bottom planking two and one-half-inch thick and the side planks two inches thick.

The cost of such a boat depends greatly upon the amount expended upon the cabin finish, fittings, furnishings, etc. An approximate estimate on the cost of the hull complete with house—not finished inside—deck fittings, etc., would be two thousand dollars. The motor would cost, say about twelve hundred, and another thousand would be expended on the cabin work, making the total cost somewhere about forty-five hundred dollars. The boat was designed by Mr. Charles D. Mower for the late Julian Rix.



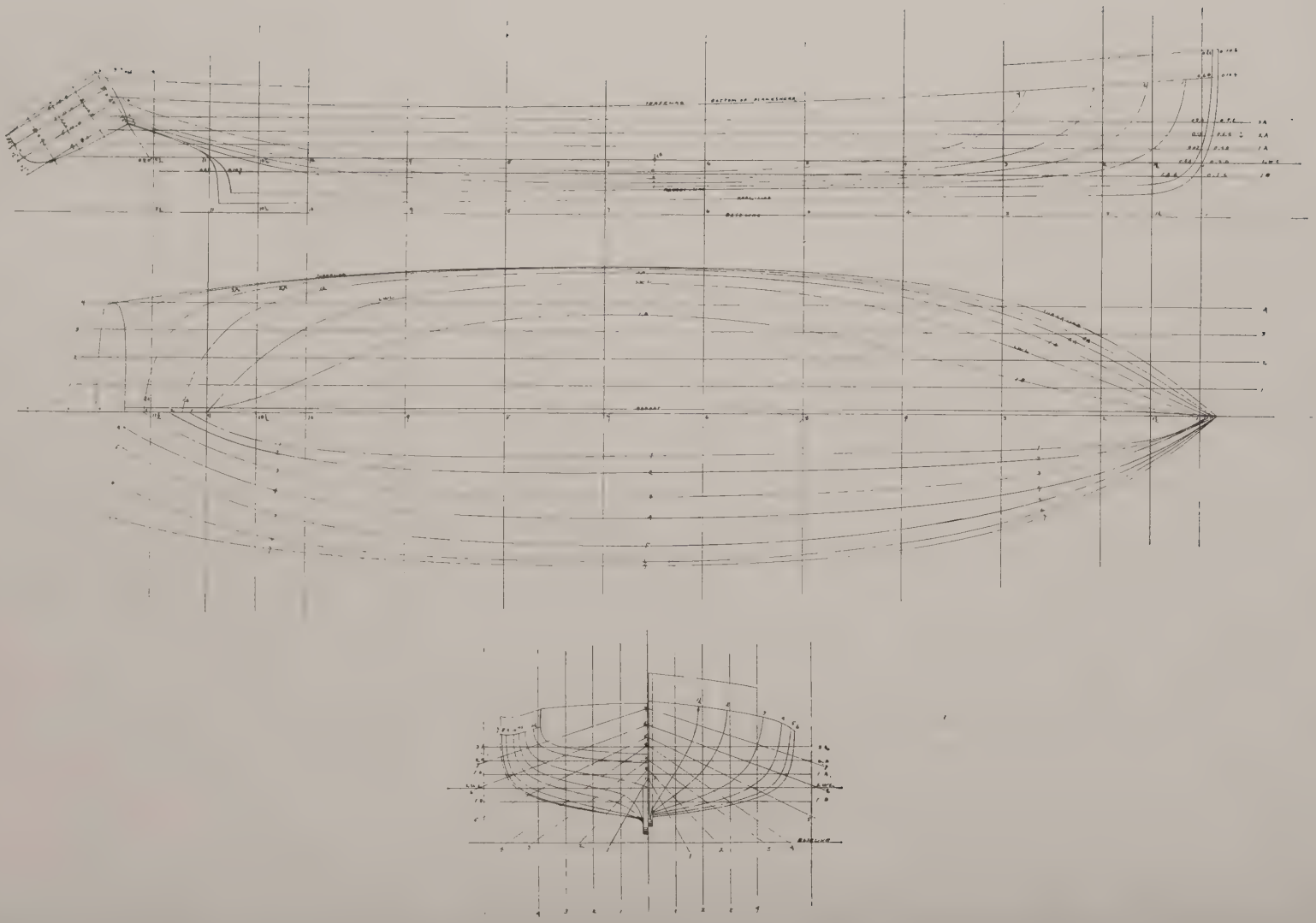
WHILEAWAY—OUTBOARD AND INBOARD PROFILES AND CABIN PLAN.

WHILEAWAY.

OWNED BY J. HERBERT CARPENTER.

WHILEAWAY was built for use on the Hudson River and Long Island Sound, and to furnish a summer home for the owner's family and guests, the object being to produce a cruising houseboat of more than the ordinary comforts as to room and airiness, also to be readily handled, and to have a fair amount of speed and sufficient power to handle her under adverse conditions. The motor is of twenty horsepower, which has given the boat a speed of eight and one-half to nine miles per hour, and she has been tried out in a number of bad blows, and the motor has been found ample to do what is required even with all top hamper and awning in place.

The main saloon is forward, and is twelve feet by fourteen feet, has built-in sideboard, and transoms with drawers convertible into berths, which comfortably sleep four persons. This room is paneled as shown, and is finished in a dark green wax stain and furnished with Mission furniture. The effect is exceedingly pleasing and satisfactory in hot weather. Next comes the owner's stateroom on the starboard side, seven feet by fourteen feet; here the arrangement is for two single beds, a lavatory and ample wardrobe space being provided, and a regulation bureau being secured to bulkhead; space under bed also being used for a steamer trunk, etc., a valance preventing an untidy appearance. Opposite on the port side is a guests' stateroom, with lavatory, wardrobe and berth, which readily extends to sleep two people. This room, as also the owner's, is finished in white, as also is the furniture. Next is the bathroom with the usual equipment. In the after part of the passageway a closet for coats, umbrellas, oilskins, etc., is provided. Here the door leads to the galley, which is roomy and well ventilated, and has all conveniences. From the galley one next reaches the motor room, which is formed, as shown, with a passage on the port side of motor. The motor room is neatly



WHILEAWAY—LINES AND BODY PLAN.

floored, and there is ample room for a couple of cots in a pinch aft of motor, as the reverse clutch and all working parts are under the floor.

A stateroom for crew is on the starboard side, entrance being just forward of flywheel of motor. The captain's stateroom is aft, and opens on to the quarter deck. A large refrigerator is located aft on the port side, and is so arranged that the ice can be put in from the after deck.

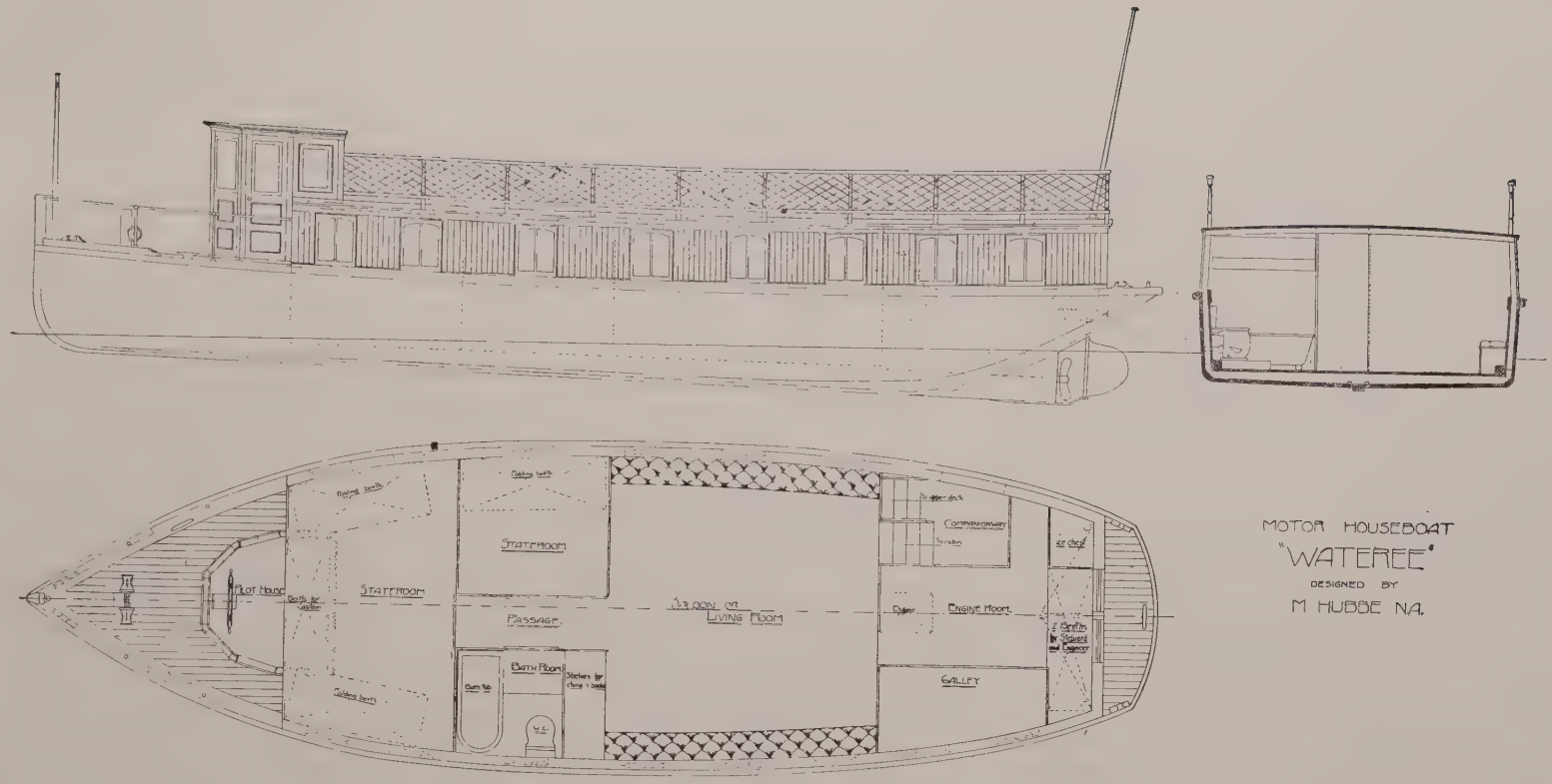
The gasolene tank, with a capacity of two hundred and fifty gallons, is forward in a water-tight compartment, and the feed pipe runs outside along the keel, thus preventing any leakage inside hull of boat. On the fore deck is a windlass bitts and anchor davit; also an auxiliary steering wheel which unships when not in use. A lever also controls the reverse to motor at this point. This arrangement is for use in locking in canals, when the awning has to be unshipped and deck steering wheel removed to allow passage under fixed bridges.

The entire upper deck is given over to lounging chairs and wicker couches, tables and rugs; the awning being lined with dark blue canvas makes it a very pleasant spot. A tank for water has cushions and a back, making an ever-ready resting place. All the windows and doors are provided with rustless fly screens, which add greatly to the pleasure of a cruise where insects are to be encountered. Many little features of comfort, utility and decoration are embodied in the interior arrangement and furnishings.

The bulwark was carried up in an unbroken sweep and to the line of the window sill, as it gives a much better proportioned whole, and takes away from that top-heavy appearance so common in houseboats and many other launches. It also gives better freeboard forward, making an abler boat. The guards are of heavy oak shod with galvanized iron, and are of ample width to protect the side of hull in locking or lying at piers. Beam outside of guards is seventeen feet, the limit for locks on Erie and Champlain canals being seventeen feet six inches. The highest point with awning down, nine feet eight inches, the clearance on canals being eleven feet. This gives the boat a wide range of cruising waters both north and south, and makes her a desirable craft. The material and workmanship are of the best, although no fancy woods were used. The frame is of oak, planking yellow pine, and house inside and out of cypress; decks white pine, upper deck covered with canvas and painted. All the galvanized iron work on awning, etc., is painted white, as is the hull and house.

Many pleasant days have been spent on board by the owner and his guests, and the boat seemed to fulfill all expectations as to comfort and seaworthiness.

Whileaway is sixty feet over all, fifty-four feet waterline, sixteen feet breadth, and draft two feet six inches. She was designed by Mr. R. M. Haddock, and built at Tarrytown by Mr. Julius Peterson for Mr. J. Herbert Carpenter, of Ossining, New York.



MOTOR HOUSEBOAT
"WATEREE"
DESIGNED BY
M HUBBE N.A.

WATEREE—OUTBOARD PROFILE, CABIN PLAN AND MIDSHIP SECTION.

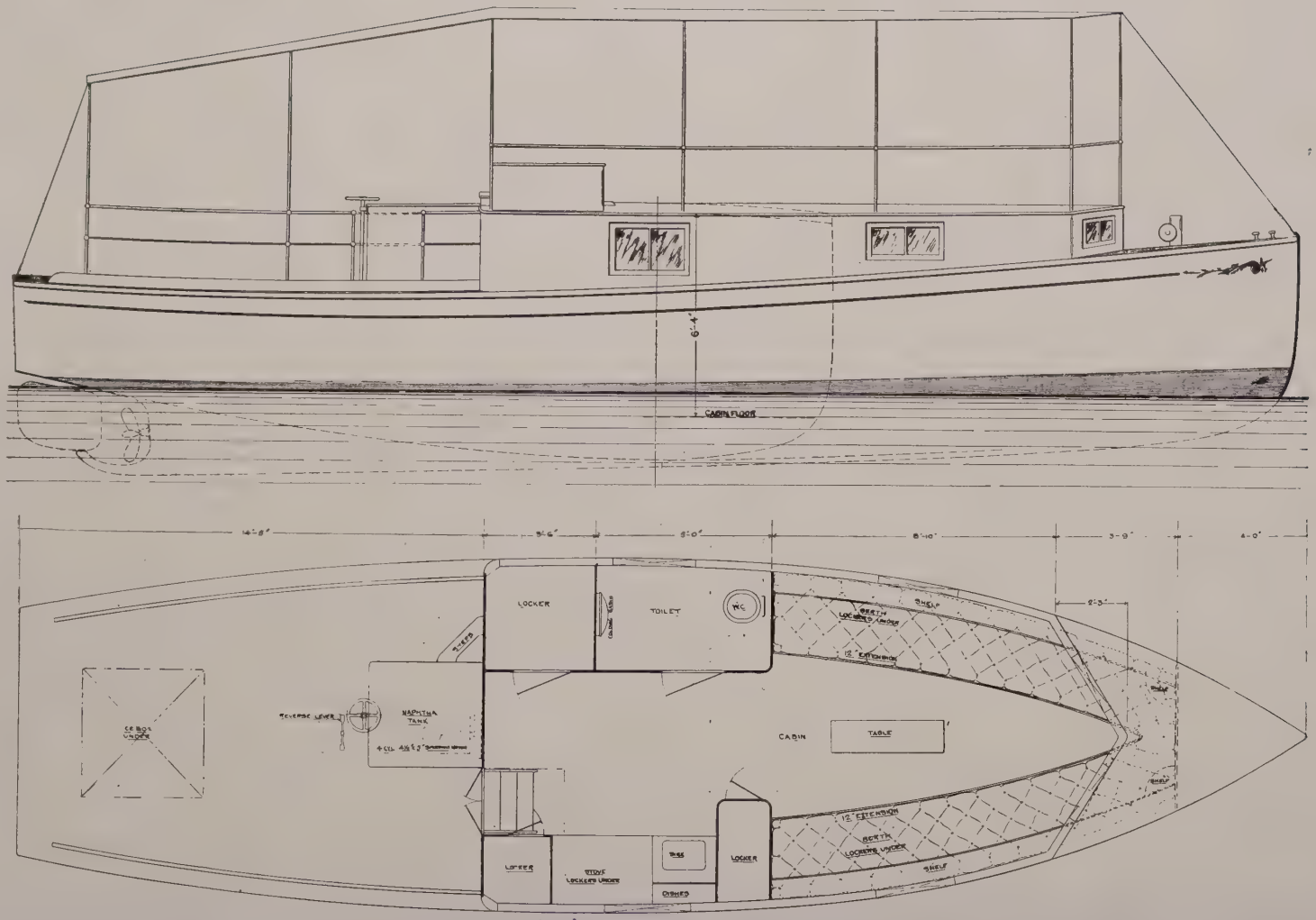
WATEREE.

OWNED BY L. G. BILLINGS.

THE motor houseboat Wateree was designed by the late M. Hubbe and built in 1900 by Mr. A. Hansen, of Bay Ridge, Brooklyn, for Mr. L. G. Billings. She is fifty-two feet long, fifteen feet breadth and two feet six inches draft. Forward there is a storeroom and naphtha tank, which has a capacity of five barrels. The large stateroom forward is thirteen feet wide and eight feet long, running the full width of the boat. In this room there are two sets of folding berths, the lower one being thirty inches wide and the upper one twenty-four inches wide. From this room, leading aft to the living room, is a passage with a storeroom, bathroom and a smaller stateroom six feet wide and six feet six inches long on either side. The saloon or living room is fourteen feet wide and fourteen feet six inches long, and has two sofa and two folding berths; aft of the saloon is the engine room, adjoining which and on the port side is the galley. On the starboard side, opposite the galley and leading from the saloon, is the companionway, which leads to the promenade deck, which is entirely covered by an awning. In the pilot house is a berth for the captain. In the engine room are two berths—one for the engineer and one for the steward. In the drawing, a motor is shown for a single screw, but the owner decided to have twin screws, and two seven horsepower Coscob motors were installed, which drive the boat at seven to seven and a half miles an hour.

Wateree has proved so roomy, compact and convenient on such light draft that several other boats have been built from the same plans.

WATEREE.



CLOVER—OUTBOARD PROFILE AND CABIN PLAN.

CLOVER.

A COMBINATION HOUSEBOAT AND HUNTING LAUNCH.

CLOVER is a sort of combination houseboat and hunting launch and the result is a very perfect type of comfortable cruising boat. She has all the roominess of the houseboat, and with it combines the shippy appearance of a well designed hunting launch. The design shows a square stern and a plumb bow. The freeboard is liberal and a very high and unsightly cabin house is thereby avoided.

Clover was designed by the Gas Engine & Power Co. and Charles L. Seabury & Co., Cons., for a prominent New Yorker, especially for southern waters. Her extreme width and shallow draft make her commodious, and she is not expensive to run. She is forty feet over all, eleven feet breadth and has a draft of but two feet four inches, and is fourteen tons net. Her power equipment is a four-cylinder, four and one-half by five-inch Speedway Model A gasolene engine.

The cabin house is twenty feet long. It is pointed at the forward end and extends out to the sides of the hull. There are two good sized windows on either side and two more in the forward end. Aft of the cabin house the deck is flush and the motor is located in the lazarette, well out of the way yet perfectly accessible. The gasolene tank is on deck and just aft of it is the steering wheel and reversing gear. A large ice-box is placed aft and can be reached from the deck by means of a hatch. Water tanks are placed on the cabin house.

CLOVER.

THE STATIONARY HOUSEBOAT.

BY DR. V. MOTT PIERCE.

IN the pleasant summer evening, lazily swinging in the hammock or ensconced in easy chairs on a houseboat, could anything be more delightful to the tired man or the lazy man than this cottage on the water, with view of the country meadows outlining the blue waters? Sunset is the time of all others when the houseboater feels that he is the happiest of all mortals. It is the time when water and land is overcast by the red glow of the setting sun, the air filled with dreamy softness, the fish jumping out of the placid water as if to emphasize the delight of living, while the birds on shore are singing their evening songs, and the gentle breeze is laden with the perfume of flowers and grasses. In the quiet evenings we sometimes hang up a few lanterns, get our boatman to play the concertina or some one volunteers to play the æolian, and a little dance on the deck is inaugurated. Bedtime is always welcome, and such sleep—a sleep as profound as that induced by a narcotic. Morning finds one so completely rested that he welcomes the day and is ready to take the plunge overboard, with a whole lake for a bath tub.

For the man with a small income who has the "summer problem" to solve every year, nothing could give more enjoyment to himself and his family or friends than a comfortable houseboat, for then, like Robinson Crusoe, he is "monarch of all he surveys"—he can move when he likes and take his home with him. As much a captain as his millionaire neighbor with a $50,000 yacht, he has as much room as the yacht owner and probably more contentment. He is not bothered with the care and responsibility of a crew, the provisioning, the coaling, the hundred and one cares that go with the intricate machinery of a yacht. In fact, if anything will solve the problem of a comfortable, economical summer on the water, it is the houseboat.

Most of our American cities are situated near large or small bodies of water that will provide a beautiful situation for a houseboat of shallow draft. For the bachelor the houseboat is a movable home, where he can repay any obligations by entertaining his friends on board. He is foot-free and can move his cottage on the water to whatever spot his whim may dictate.

As contrasted with a country place or a cottage on land, the houseboat has the advantage of a changing scene to suit conditions or inclinations, with no taxes to pay and little care or responsibilities. The novelty of living in a boat may wear off in time, but certainly a change of scene is always practicable, and an easy remedy for ennui. We have yet to find a person who has lived on a houseboat who has become tired of this mode of living. A

business man can place his houseboat in ideal spots, such as the Thousand Islands of the St. Lawrence, Lake Champlain, the beautiful lakes of Central New York, the Great Lakes, anywhere along the seashore, such as Great South Bay or Peconic Bay, Long Island, in one of the many bays, or the many inland lakes reached by canals or rivers. If business does not permit of a long vacation, he can readily have his houseboat towed to some convenient locality near his business.

To the artist or the lover of nature this kind of boat furnishes a summer home that can always have a change of scene—new landscapes, fresh views of the water, beautiful sunsets, and an unequalled chance to study the heavens on starry nights, at peace with all worldly thoughts, free from the noise and turmoil of the madding crowd. The placid waters furnish a natural park that you can enjoy as though you were the possessor of the mighty acres of an earldom.

One does not live on the inside of his floating home—that is there only for sleep. The outer decks are the living rooms—right out in God's open air, in the midst of sunshine, resting under ample awnings in luxurious hammocks or easy chairs. After a hard day's work there is nothing more delightful than getting back to one's home on the water, where one may enjoy rest and the delightful change from business and the heat and dust of the city. At night the quiet ripple of the water, the ozone in the air, and perhaps the gentle motion of the boat, lulls one to sleep, and two months of such restful nights and good air fits one for a whole winter of hard work. It is a fact that can be demonstrated by inquiry of sailors and men who follow the water, that few people living on board a boat are known to have rheumatism, typhoid, bad colds or the common ills prevalent on land. The houseboat eliminates any possibility of bad sewerage or drainage. One has all the advantages of fresh air, as in camping out, without its inconveniences, for in the houseboat we can have a good kitchen with range or oil stove, ice-box, a bathtub and convenient washstands.

A day may be ever so hot on shore, but the houseboater knows where he will find a cool spot out on the open water and under ample awnings. A few hundred yards away on shore the summer boarders may be tantalized with mosquitoes, or they may be unable to sleep in beds in their warm rooms, and try to get air by spreading mattresses in front of windows, but a few hundred yards out on the water where the anchor light gleams on the houseboat, everyone is slumbering, cool and comfortable. The slightest breeze is wafted through the windows, and sometimes blankets have to be used when at the very same moment the cottagers on shore are restlessly trying to sleep in a temperature fifteen degrees hotter.

It does not require a long pocketbook to build a comfortable houseboat, and yet there is no limit to the amount that could be spent in the building and furnishings. A boy in his teens can build a boat for himself at a little cost. For one who has to practice economy the houseboat furnishings can all be taken from his winter home—his bedding, his kitchen utensils, tableware and furniture can be placed aboard, and he is ready to spend the summer free from the annoyance of crowded hotels or boarding-houses.

Comparatively few people know at what small cost they can have one of these moving summer homes, for they are always possible, even for the small wage earner. If the man is handy with tools he can build a small houseboat for himself in which he can live summer and winter. The present high cost of lumber makes these houses more expensive to build than formerly, but a roomy boat—one which a carpenter could build for you for about $900—would have a hull thirty feet long and fifteen feet wide, with an extension overhang at bow and stern. It is quite possible to hunt up a bargain in the shape of an old hull—some obsolete type of sailing vessel—which would make a splendid foundation for a deep-water houseboat. Then the deepening of the Erie Canal and increasing the size of the locks for deeper draft boats will in all likelihood place on the market many very good canalboats of the smaller type that could easily be turned into houseboats.

Houseboats can be built, as I have said, to suit almost any degree of modesty, economy or extravagant luxury. One very economical houseboat, I remember, was quite appropriately named "The Ark," and for many years was registered at the tail of the fleet list of the Atlantic Yacht Club.

"The Ark" cost $1,100 to build, and was a good, substantial, seaworthy summer home, with ample sleeping accommodations for a man and his wife and two children and a servant. In fact, when a guest came to stop over night, there was a place for him on a comfortable lounge-bed in the big living room.

"The Ark" was sixty feet over all. This allowed a ten by sixteen front open deck piazza which was screened from the sun by awnings. In the stern there was a small open deck six feet by sixteen. Here the cook kept her ice box, coal barrel, water tank, and various other things.

The best point of this inexpensive but very comfortable houseboat was the large living room in the front, which was twenty-four feet long by sixteen feet wide. It had two very large double windows on the starboard and port sides, and two good windows in the front, besides the door. The passageway leading straight through the middle of the boat gave a fine draught and ventilation, and if there was any breeze at all it swept through the living room and through this passageway and cooled the whole boat. The big bedroom, fifteen feet by seven, had three windows, and ample room for washstand, bureau, trunks, etc. The starboard bedroom was rather small, but accommodated two children very comfortably. A curious, but ingenious and satisfactory toilet arrangement did away with all plumbing, and was a very economical feature of the outfitting of the boat.

Although "The Ark" was only "one storied," the upper deck or roof of the boat made a fine open-air sun parlor, and was protected by a canvas awning. Up on this upper deck were hammocks, growing plants, clothes-lines, fishing tackle, etc.

"The Ark" drew only eight inches of water, and could therefore be floated up into a small creek or into any little cove. And while speaking of the very small amount of water needed to float a houseboat, let me call attention to one danger which threatens an inexperienced houseboat owner on the salt water, but it is a danger which, when once under-

stood, can be thoroughly guarded against. Where a boat is tied to the bank in shallow tide-water—where there is a rise and fall of tide—it is important to examine the bottom underneath your houseboat to make sure that when the tide falls your boat will not rest on sharp rocks or something which will punch a hole in the bottom. When you are not tied to a bank, but are anchored in a shallow place where your houseboat rests on the bottom at low tide, it is important to anchor in such a way as to prevent the possibility of your houseboat settling over the projecting fluke of your anchor. This very thing happened some years ago in Gravesend Bay, New York, when Mr. Pierre Lorillard's valuable houseboat settled on the sharp fluke of her anchor and punched a hole through her bottom and filled with water.

One way to prevent this is to run out a bow

INTERIOR OF WAH-TA-WAH.

AWAITING THE EXPECTED GUEST.

anchor and a second anchor from the stern. But if a heavy wind comes up on the quarter, you are almost certain to drag one or both of these anchors, because you present a broadside to the wind. On the whole, the best and safest way to anchor a houseboat is to make what is called a "bridle." Put down two anchors from the bow of your houseboat, separated from each other by a chain or hawser a little more than double the length of your houseboat. Then tie your boat on to the middle of the anchor chain. In this way you will be safe from settling on either one of the anchors, no matter which way the wind blows, and you will always lie head to the wind.

The houseboat Wah-ta-Wah was built at Buffalo, N. Y., after the writer's designs, and intended for a floating summer house for his family. The boat has a beam of fifteen feet,

which is as wide as a boat should be built on the inland lakes, if the owner ever contemplates moving his home down the Erie Canal to the many small lakes in Central New York or to the Thousand Islands or sea coast.

Wah-ta-Wah was built with this ambitious design, and is so arranged that the water system supplying bathroom and washstands can be pumped from a large fresh-water tank, or by simply the turn of a cock water is drawn from the outside. The upper deck house, which makes by far the coolest and pleasantest bedroom or lounging room in the boat, is built in sections (to come down) so that the boat may clear the low canal bridges. The open-air dining room on the stern deck is one of the most enjoyable features of a houseboat, and we should advise all builders of this class of boat to arrange for it if possible.

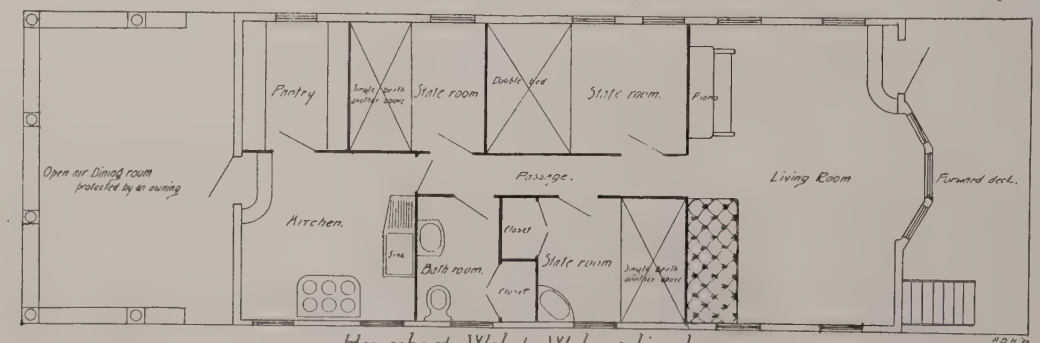
A boat as large and comfortable as Wah-ta-Wah can be built for about $1,200, of which the hull costs about $300. After the hull or scow was built in a shipyard, the deck house and fittings were put up by house carpenters.

Wah-ta-Wah was the second houseboat to be built in the vicinity of Buffalo and the Niagara frontier. A well-known artist of Buffalo was the first to adopt a floating home and studio, having purchased a discarded cable boat, such as were used on the Erie Canal for a while. He fitted up Bohemian, for that was her name, and made many sketching trips down the canal, having his boat pulled by a horse to Albany, then towed down the Hudson to New York.

Such a boat combines the advantages of summer cottage, yacht and camp, but is much cheaper than either of the first two, and certainly much more comfortable and but little more expensive than camping.

A boat which is at the same time a summer home would please many a man who may have enjoyed boating, canoeing, sailing or fishing in his youth, but who, when he has the care and responsibilities of a family, does not see his way clear to enjoy his old pastime. To such a man a houseboat will appeal. For the artist the houseboat furnishes a moving studio that can always have northern exposure, beautiful surroundings, marine views or landscapes. The easel is safely placed on deck, and there are no limits to the background, most comfortable quarters to retire to, and no disagreeable thoughts at sundown that one must pack up one's traps and find one's way home in the dark.

The person who has existed in the city all



Houseboat Wah-ta-Wah, cabin plan.

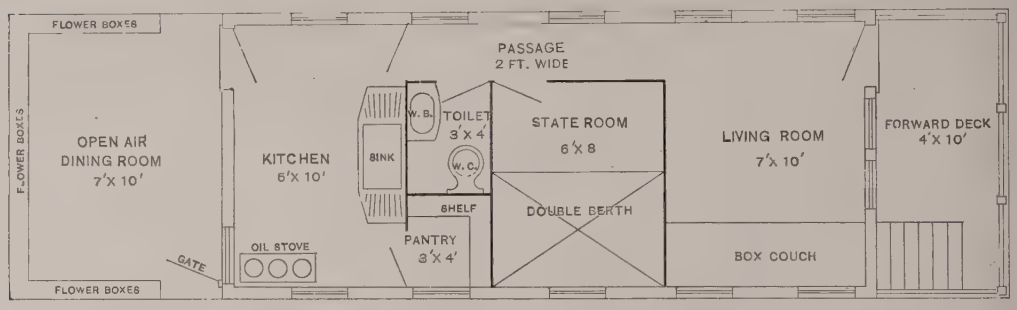
WAH-TA-WAH—STERN VIEW.

his life and has never had the boyhood pleasures of sailing, fishing or swimming—even such an one (if he could be found by aid of Diogenes and his lantern) will become thoroughly imbued with the houseboat idea if he visits one only for a day. In hot weather the houseboater's "tub" lies just outside his window, inviting a plunge into its limpid waters in the fresh morning. After a brisk rub, and dressing in a loose working suit that fits like a gunny sack, hunger assails as in the old days when "mush and milk" tasted better than terrapin does to the epicure. Following a hearty breakfast in the open air of the stern deck, surrounded by flowers, one is ready for anything. Business or pleasure comes easy such a day.

This most delightful way of healthfully spending spring, summer or autumn, with all the advantages of camp life, and without its many discouraging inconveniences, offers itself to any man or woman, even of moderate means. At the present time the owners of these summer homes are mostly wealthy people, if not millionaires, which have cost their owners anywhere from $5,000 to $60,000. But the purpose of this article is to show how almost anyone can have a floating summer home which will furnish enjoyment and good health and solve the summer problem for the family.

Easiest of all methods to obtain a summer home afloat is to purchase an obsolete canal boat—an old-timer—renovate and fumigate; cut out large windows in its side, place skylights in the deck, made so that the windows can be raised to catch all the air possible; partitions inside to suit the size of the family, and all is ready for a long excursion from the salt water of the Atlantic up the Hudson River and Erie Canal to Oswego, thence to the St. Lawrence and Thousand Islands, which afford the ideal location for this kind of summer home. For a houseboat on deep water, sometimes an old dismantled sailing ship that "has seen better days" can be purchased cheap, and an extra cabin built upon its deck for the best living rooms of the family. In building a new houseboat we can usually design our home first, and then plan the hull to carry these rooms. Our starting

WAH-TA-WAH—BOW VIEW.



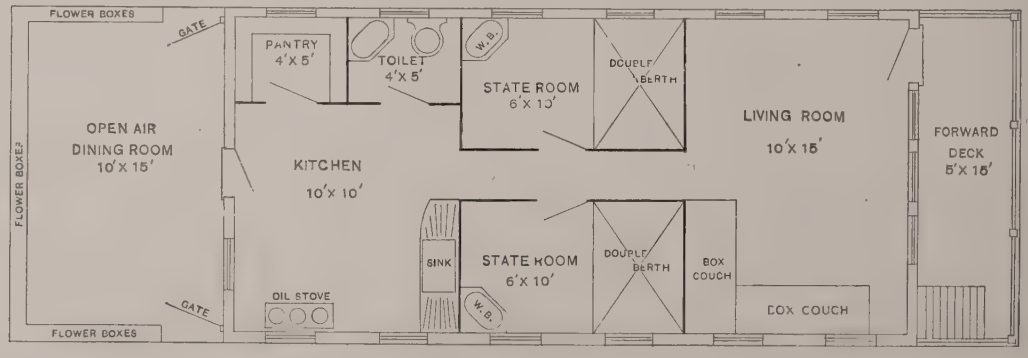
PLAN OF SIX-HUNDRED-DOLLAR HOUSEBOAT.

point, therefore, is a plan that will give us the greatest comfort and convenience for the least money.

For family use we give the plan of a houseboat with staterooms large enough to accommodate large double beds, and providing for furniture which can be taken from the ordinary household or flat. Cheap box couches, suitable for storing away bedclothes or linen, can be used in the living rooms for extra guests. Curtains can be hung from poles all about these couches to make further privacy for the occupants. If the boat is for the use of a club of men, then the ceiling of the cabin can be made high enough to accommodate two single bunks in each stateroom, one above the other, as in passenger steamers.

Modern oil stoves are most convenient and serviceable for the kitchen, and do not heat up the rooms. When necessary the cook or man-of-all-work can sleep in a folding cot in this room. Running water in the kitchen and bedrooms can be arranged by placing an old disused hot-water boiler on the upper deck. Fresh water is pumped into this tank once a day to supply the faucets, which must be arranged as near to each other as possible to economize on the cost of plumbing.

If the boat is intended for salt water there is the additional expense of providing a large storage tank under the deck in bow or stern for carrying plenty of fresh water, which in turn must be forced into the small reservoir tank on the upper deck. A splendid plan for the salt-water boat is to use the upper deck for collecting rain water and allowing it to run off into large pipes filled with charcoal which conduct it to the storage tank.



PLAN OF NINE-HUNDRED-DOLLAR HOUSEBOAT.

Having decided on the house, the hull must be designed to carry it. This is the foundation, as it were, and is expensive for the reason that the ordinary house carpenter is not familiar with this kind of work, and we must, therefore, go to a boat builder or one who builds barges for canals or harbors.

In our designs, shown herewith, we have planned a boat that need not cost more than $900, and another to cost about $600. We estimate the cost of building the larger boat, plan of which is here submitted, about as follows:

Scow or hull	$300
Material for cabin	275
Labor	125
Plumbing	80
Fittings, painting, awnings, etc.	120
Total	$900

The plan of the smaller boat we estimate would cost about one-third less, or about $600.

If the prospective builder of a houseboat ever intends to take his boat through the Erie Canal, the extreme beam the present locks will allow is seventeen feet. For northern waters, and especially for fresh water, a thin iron hull would cost about one-third more than wood, and be a saving in the end, because it would avoid the necessity of drydocking the boat for caulking, and this kind of a hull is at all times perfectly dry, and will last a lifetime.

A wood hull should have clear pine planks at least two inches thick in the bottom, the sides of three-inch planks, with oak or spruce ribs and frames, floor beams bolted to keelson and uprights bolted to sides; planks on sides should have plenty of spikes and rivets to prevent boards spreading. A mooring post and two chocks are placed at each end of the boat. Three feet depth of hold is sufficient, and with a boat of considerable beam, of say sixteen feet, the draft should not be much over a foot.

Our arrangements of sleeping accommodations have been made for a small family who prefer good double beds rather than narrow bunks. If accommodations are required for a greater number of persons than provided for here, then the staterooms can be built narrow and the ceiling high enough to allow single berths, one above the other, to provide for double the number of people. In the front living rooms "pipe berths" can be put in above the couches. These are made like upper sleeping car berths—the frame of iron pipe, with woven wire springs, and one side of the frame fastened to the side walls, the outer ends being supported by hooks and chains to the ceiling above, and so arranged that they can be folded back out of the way or stored away.

Economy of room inside and saving of expense can be made by placing the passageway on the outside of the boat, by making an extension or overhanging footpath on the sides of the boat and an entrance to all the rooms from this outer passage. For cool or rainy weather, however, this has its obvious disadvantages. The open air dining room on rear deck may have large window frames for glass or netting, if thought necessary.

A saving in the first cost of plumbing may be made by using movable toilet stands instead of the running water and stationary washstands. An ordinary ice-box can be placed on the open deck, at the stern, while

HOUSEBOAT BARNACLE WITH SAILING TENDER.

underneath both bow and stern decks are large spaces which should have openings and small doors into both the living room and the kitchen, suitable for storing away lanterns, ropes, trunks, extra mattresses, and in the stern this room serves as a cellar for oil, canned goods, bottles, and many household necessities. At a little more expense the state-rooms can be provided with double berths that are built in and are high enough to allow of a double row of drawers underneath. These bunks should be made of the regulation size, so that the woven wire springs and mattresses taken from the beds at home will fit them.

By placing the cabin floor on the floor frames of the hull, greater head room can be obtained without making the cabin look top-heavy. The head room may in this way be made seven and one-half feet in the clear without causing the house to rise above the main deck higher than to permit of fair-sized window room. A house carpenter working by the day can finish the cabin after the hull is ready in about seven or eight weeks at the most. Matched Norway pine makes a good lining for the inside of the boat, and the decks should be made rain-proof with canvas and afterward painted. Fly screens for the windows and doors, Venetian blinds that raise and lower with a cord from inside are pleasant adjuncts. Upper cabins on the main deck can be added as the means of the owner permit, and these will be found the pleasantest and coolest rooms in the boat.

With our houseboat built on any one of these lines, we shove off, and, with flags flying, we make our way slowly to some picturesque spot. Our hawser is made fast to some spreading elm, our rowboat prepared, and we are ready to enjoy the fishing, boating or swimming.

For protected bays and lakes a sailing houseboat furnishes an exhilarating amusement, as well as a comfortable summer home. Having little draft, they can skim over the water at a lively clip with the wind well abeam. Although such a boat does not afford quite the room of an anchored houseboat, yet with the sails it is possible to move on to some new anchorage without calling for the help of horse or tug.

We will now deal with actual life on board the floating summer homes, and the many ways in which houseboats have been found to combine all the advantages of a home, a yacht, and a summer camp.

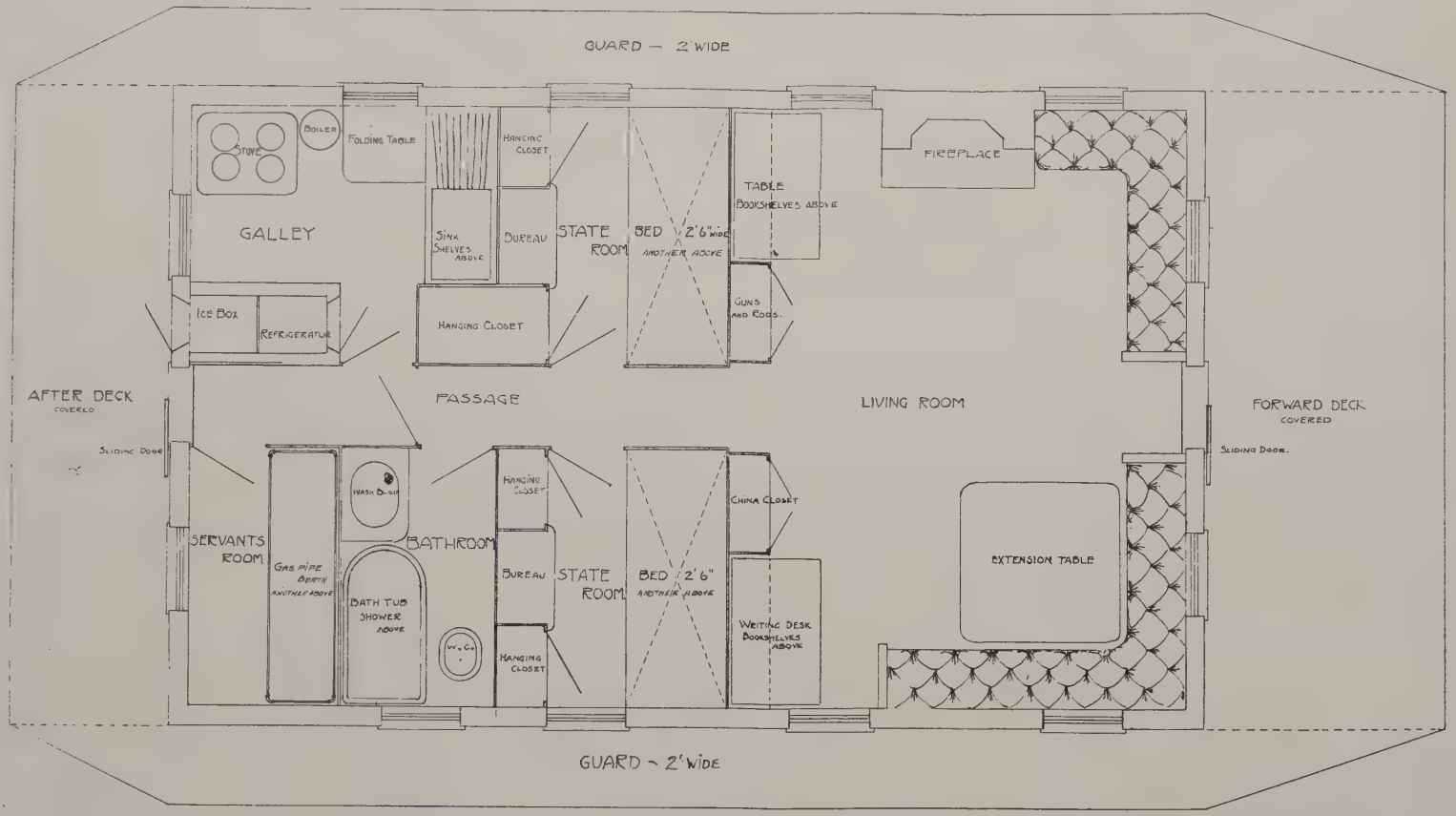
There are a great many different kinds of houseboats, ranging from the floating palace of the millionaire to the modest little "cottage" boat, which certainly costs not more than $500 to build and furnish complete. But whether the former or the latter is best suited to our tastes and pocketbooks, the results will remain almost exactly the same—the houseboat, in combining the advantages of yachting, camping, and sightseeing, solves the summer problem.

Though many centuries have passed since Noah built his ark, it has only been within very recent years that his style of boat building has been fully appreciated and copied. The most conspicuous example of this is to be found in the houseboat fleet of the late Mr. Pierre Lorillard, who not only built an ark, The Caiman, to shelter himself and his guests, but in addition built and used an auxiliary ark to carry his animals. This boat was fitted with stalls for his horses and kennels for his dogs. These boats he used in Southern waters, and when he found the conditions excellent for hunting, his dogs and horses were unloaded and all made ready for the day's hunt. This was luxurious hunting *par excellence*. When tired by a day's hunt, he had a floating and movable palace to retire to, surrounded by all the comforts of a home.

At present time there are a dozen large houseboats in Southern waters that are owned by wealthy men who spend the winters aboard their floating homes. Although these boats are not so large as Mr. Lorillard's Caiman, yet they are fitted with every convenience and comfort that can be suggested for a living house on land.

The power houseboat is never intended to show smartness, for speed is usually sacrificed to comfort, but some of these boats make eight or nine miles an hour with twin screws

WAH-TA-WAH.



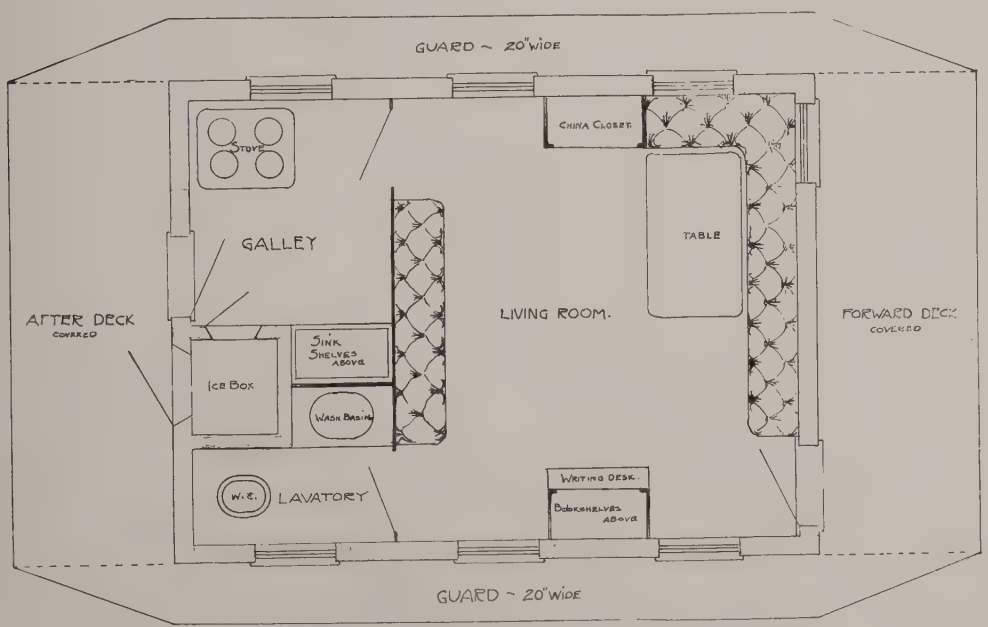
SUGGESTED ARRANGEMENT FOR A HOUSE 25 FEET LONG ON A SCOW 36 FEET LONG AND 12 FEET WIDE.

and double gasolene engines. Houseboats propelled by steam are not often met with, for the reason that the heavy boilers sink the houseboat too deep in the water, and a lighter draft enables one to sail the more shallow rivers for hunting and fishing. Then, too, a houseboat should draw only two or three feet of water, for it can then get into shallow harbors or anchor near some island, which shelters it in case of severe storms.

The Indian River, Biscayne Bay, and the keys and coral reefs of Florida, which protect and form an inside passage, furnish over three hundred miles of beautiful waters for a houseboat—waters that contain all kinds of wonderful and game fish, perhaps the best fishing in the United States to-day.

For the man of moderate means who requires a winter vacation, or the invalid whose lungs are weak and whose constitution is run down, the Florida houseboat offers a splendid asylum. It need not be an expensive affair, for almost any kind of a small flat-bottomed boat with big windows in its cabin for good circulation of air, and a leg-o'-mutton sail and jib, will carry one to the best fishing and hunting grounds. There is almost sure to be a good breeze every morning along this coast, and one can make forty or fifty miles a day with the worst omnibus of a boat.

What a free life this opens up to the men and women of our crowded cities who live in "heavenly" flats whose parlors and living rooms are deftly furnished with wonderful contrivances said to be mantel beds which have an inconvenient habit of inclosing the occupant, pianos that hold a month's supply of coal—so many things that are all but what they seem. It is imitation comfort, and is neither a home, nor is it life—it is mere existence. For every man who is worn out with business cares or sick, with nerves unstrung



SUGGESTED ARRANGEMENT FOR A HOUSE 18 FEET LONG ON A SCOW 24 FEET LONG AND 10 FEET WIDE.

or stomach out of order, we can recommend life on a houseboat as the best remedy in the world, whether it be in the North or South. Our busy multi-millionaires cannot afford a rest on a houseboat. They could not be constantly in touch with the market, perhaps, so they must needs have a fast yacht, by which they can always reach telegraph offices quickly and easily. But for the man who is cooped up in the city, amid the hustle and bustle of business life, having little chance to see the blue sky, the green fields and waters and all the beauties of nature, the houseboat will supply just the needed rest and freedom from care.

Every one knows of the unfavorable influences of improper food on mind and body. Air is a food just as much as bread. We consume it. A certain portion—oxygen—is burned up in our body. The air of our large cities is vitiated with dust and smoke as well as the germs of everything unhealthy. Have you ever noticed the feeling of vigor and elasticity that comes to you when in the country or on the water? It comes with pure air. Instead of a tired feeling you store up a strong feeling of independence and a reserve force. Living and sleeping in a houseboat, one gets the ozone in the air that comes from the water. There is beauty everywhere; the air is pure, the nights are cool, and there is a kindly tone of comfort and happiness about this floating home which can be found nowhere else.

In the early spring, when the blizzards or the sleety rains are making the out-of-doors miserable for every one in the North, the houseboater in Florida is basking in the sun and breathing in the soft, balmy air from the ocean. Then, one day, he wakes to see the silver fins of the tarpon glistening in the sun as this beautiful king of fish makes a mighty leap from the green waters. You count one, two, three, a whole school of them, frolicking and leaping out of the water as though playing at leap-frog. Tarpons have been known to jump fully fifteen feet.

Clothes are put on with the same rapidity with which a fireman jumps into his clothes when the gong sounds the general alarm, and then it is overboard all! The boats are manned, the fisherman takes his seat in the stern of the dinghy, and off he goes with his muscles twinging, his eyes starting from his head at the fish in sight, as though paradise was just opening to him over there. He sways to keep time with the oars in a frantic but fruitless endeavor to help push the boat. The line, attached to a supple pole, is dragging forty feet behind.

As he approaches the playground of the silver king, more line is let out—fifty feet, then one hundred feet is pulled out from the automatic reel. The critical moment has arrived. The strongest man trembles with emotion. He hears his heart galloping in his ears. Oh, if only one of those beautiful fellows would catch hold! The suspense is terrible—one hardly breathes—and then, splash! and up goes a one-hundred-pound tarpon into the air, fully five feet above the water, and down with a terrible splash, sending the water into the air like a cascade.

Zip-zip—the line begins to pull, and off it goes, making the leather brake fairly smoke. The pole bends nearly double in our frantic endeavor to snub Mr. Fish and tire his lightning-like dash for liberty. Finally the line

stops running out, and we pull in line, fifty feet or more as fast as we can. Then another splash, and the tarpon has taken "the bit in his teeth" and is off again to seek the deep blue water. Again and again we haul in our line, only to see it go out with the speed of a railroad train. A half hour seems like ten minutes in this struggle, which leaves the novice pale, trembling and sick with the thought of losing his first tarpon.

Suddenly a new danger threatens him, for the slippery black fin of a shark heaves in sight. The "hyæna of the sea" knows the tarpon is nearly done for, is almost helpless, and we know that unless we get that tarpon in at once we shall have no trophy to show our northern friends. This time, however, the "silver king" must yield his crown and abdicate, for he is too tired to struggle, and the boatman fires the revolver several times at the shark to scare him off. A strong and steady pull and we have the tarpon alongside ready for the boatman, who hooks him with his gaff, and with a tremendous effort throws him into the boat.

It is impossible, of course, to describe in this article all of the comforts and pleasures of houseboating. But the few unpleasant moments and discomforts which are bound to fall to the lot of those who live on a houseboat can be dismissed in a very few words.

To begin with, partitions on houseboats are not like brick walls. They do not stop sound, and the houseboater is liable to awake in the morning before he is called by hearing the cook grinding coffee in the kitchen or sweeping the dining room overhead. Then there are sometimes rainy days when houseboating is not very agreeable indoors or out. On stormy nights, when windows, doors, and even the walls creak, you are liable to be kept awake long past your regular bedtime.

But these little inconveniences are more than atoned for by the pleasure of being on a houseboat when the sun is shining, the sky is clear and everybody on board feels happy and contented simply because there is absolutely nothing to worry about.

In conclusion, we advise every one that the beauties of nature are lost to them unless they try living on the water. A cottage in the country is monotonous compared with the ever-changing landscape of the water—there is beauty everywhere, the air is pure, the nights are cool, mosquitoes do not bother you, and there is a restful tone of comfort and happiness about a houseboat which can be had in no other abode.

LYSANDER—OUTBOARD PROFILE AND CABIN PLAN.

LYSANDER.

DESIGNED BY R. W. HADDOCK.

THE houseboat Lysander is of the scow type; eighty-five feet over all length, twenty-one feet extreme breadth, and two feet four inches draft. She was built in the winter of 1901-02 at Alexandria Bay, New York, for a well-known New York gentleman, from plans made by Mr. R. W. Haddock. The hull was built on the ice and practically launched itself in the spring. The boat has no power for propelling purposes and is intended for a floating home to be towed from place to place at will.

On coming aboard at the companionway, on the foredeck, the first room is the library, twelve feet six inches by nineteen feet in the clear. Window seats run along each side, having lids hinged to raise, for storage. Three windows on each side give ample light; and heat in the fall is furnished by a complete steam-heating plant, radiators being in all rooms, as shown in plans. Besides the heating plant, the boat has a complete electric lighting equipment—engine and generator.

The general scheme of interior decoration is white enamel walls and ceiling, and hardwood floors throughout. A passageway three feet six inches wide runs from the library to the dining saloon, from which open the owner's stateroom and guests' rooms. On the port side are two large staterooms, eight by eight and eight by ten, connecting through the bathroom. In each room is a wardrobe and bureau. Both rooms are intended for regulation bedsteads, as also are two of the guests' rooms on the starboard side. These rooms are all provided with white enameled lavatories, and hot and cold water.

The water system is by gravity from a large tank on the upper deck. This tank is divided to break the swash. The top is fitted with cushions and is used as a lounging place. A skylight also gives light to the passageway

LYSANDER.

beneath. Hot water is provided from the range in the galley.

The dining saloon is a large and spacious one, being sixteen feet by twenty feet. Sideboard, serving table with drawer under for linen and corner china closets are provided here. Next comes the galley on the port side, and captain's and steward's quarters on the starboard. Quarters for the crew are placed below deck in the after part, as also is the machinery and heating plant.

The boat has a complete sewage system, with main trunk line and branches all in a most up-to-date manner. Consideration for good ventilation being of prime importance, no expense was spared to attain the same.

The entire upper deck is given to comfortable furniture, and is an ideal summer resting place. The whole is covered with a standing roof, having storm curtains for inclement weather. The interior is furnished and fitted with all the small things that go to make life comfortable. The spars are more for dressing ship than any other purpose, and do not extend below the roof of house. The galley is complete in every detail.

For summer on the water a boat of this type gives as much comfort as a small house, and certainly freedom from dust and many other land nuisances, and possesses the advantage of being easily moved if the locality becomes wearisome. It also furnishes a base for many aquatic pleasures—a sailing, canoeing, rowing and launch party. The possibilities for entertaining and social events are no mean feature of a boat of this class.

IDLER.

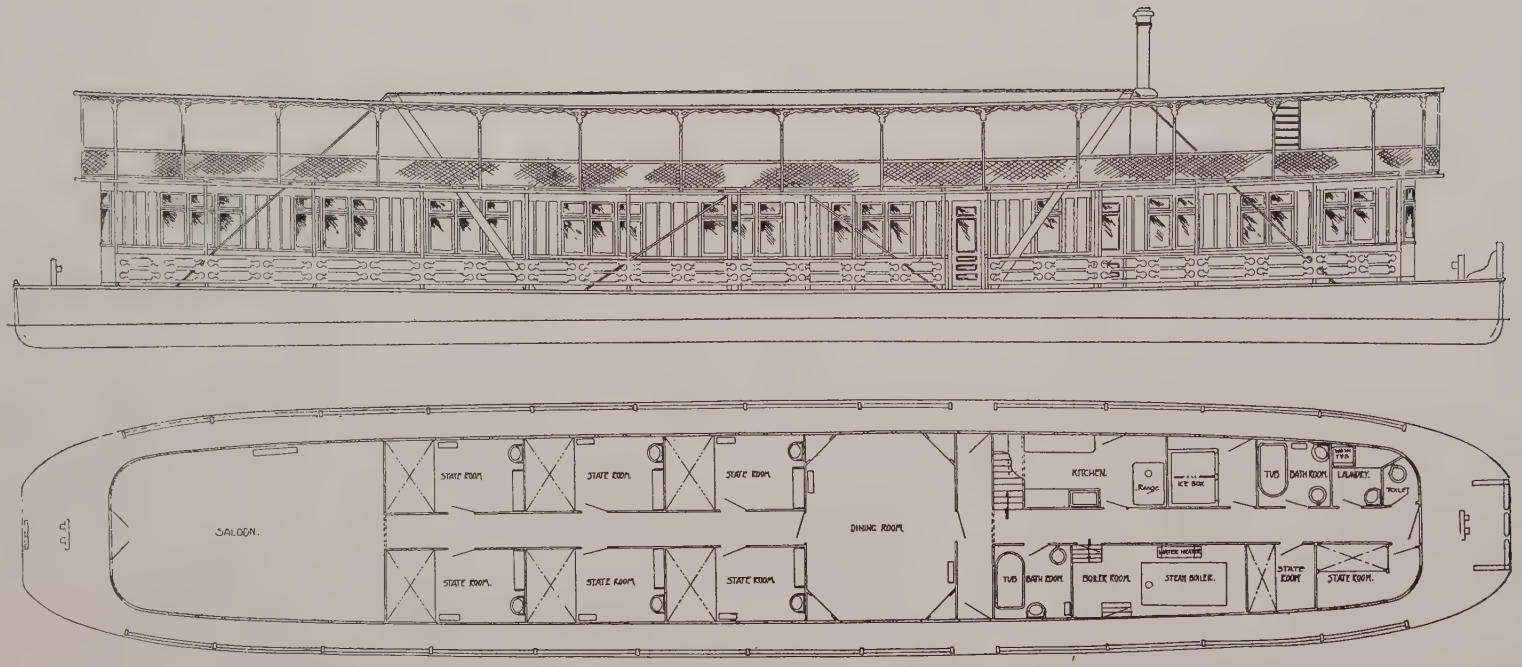
OWNED BY LAFAYETTE LAMB.

FEW of the men in the East who are interested in houseboats, realize to what extent this mode of life is enjoyed in the West. It would be difficult to find a lake or river in the West where there is not at least one houseboat, and in most cases several are to be found. The boats are of all sizes and types built to meet the owner's means and requirements.

On the Mississippi River and its tributaries there are great numbers of houseboats, and we have been fortunate enough to secure the plans of one of the largest and best equipped among them. The houseboat in question is known as Idler, a most attractive name by the way, for a craft of this type. She is owned by Mr. Lafayette Lamb, of Clinton, Iowa, who, together with his family and friends, make the boat their home for several months of the year.

Idler was designed and built to meet the owner's needs, and she has proved to be a very suitable craft in every way. She is one hundred and sixteen feet six inches long, twenty feet six inches breadth and draws one foot nine inches. The boat has no propelling power of her own, and has to be towed from place to place. To look at the photograph it will be seen she has two small stacks aft, which would lead one to think she had propelling power, but the port stack is the one used for the little boiler that makes the steam for the electric light plant, and also heats the boat by steam, drives the pump that filters the water and also heats the water for bathrooms and staterooms. The stack on the star-

IDLER.



IDLER—OUTBOARD PROFILE AND CABIN PLAN.

board side is the smoke vent from the kitchen stove.

On the lower deck there is a passageway two feet six inches wide, all around the cabin house, which enables one to walk entirely around the boat. There is ample deck room forward and aft for the handling of hawsers and anchors.

Forward is the main saloon or living room, twenty-two feet long and about fourteen feet wide. In this room there are fourteen windows and a double door opening on the forward deck. Heavy rugs, Oriental hangings and wide divans make this room very comfortable and attractive. A passageway three feet wide leads aft to the dining room. There are three staterooms on both sides of the passage, each six feet wide and eleven feet long. Each room is fitted with a double bed, hanging closet and a set marble basin with running water. A steam radiator furnishes heat in case it is needed, and the three windows in each room give ample light and ventilation.

The dining room, which is twelve feet long and fifteen feet wide, is located amidships. There are three windows on either side, and in each corner are china and silver closets. Just aft of the dining room is a transverse passageway three feet wide. This passage enables one to go from one side of the boat to the other without going forward or aft, and it also divides the owner's quarters from the kitchen, boiler room and servants' quarters.

Extending aft from the 'thwartships passage is another passageway three feet wide. On the port side of this is a bathroom six feet square fitted with a porcelain tub, set marble basin and water closet, all of which have running water. Aft of the bathroom is the boiler room, six feet wide and fourteen feet long, Still further aft are two staterooms, one five feet by six feet, and the other five feet by eight feet.

On the starboard side of the passage is the staircase to the upper deck. Just aft is the kitchen, six feet wide and eleven feet long. Adjoining the kitchen is the larder, six feet by seven feet. In this room there is a large refrigerator capable of holding a good supply of ice. Further aft is another bathroom five feet by six feet, fitted very much the same as the other. Next comes the laundry with set tubs and wash basin, and at the extreme end of the passage is a toilet room.

The upper deck is eighteen feet wide and is unobstructed for nearly eighty feet of its length. This deck is entirely roofed over, and canvas screens protect one from rain, wind or the slanting rays of the sun.

It is here that those on board spend much of their time, and the many rugs, comfortable chairs and hammocks make it an ideal loafing place.

Four boats are carried on the davits, and when not in use are swung inboard and rest on chocks on the roof over the upper deck.

In order to move Idler from one place to another, Mr. Lamb had a stern wheel steamer built, which is called Wanderer. She was built solely for the purpose of moving Idler about. Wanderer's bow is made fast to Idler's stern, and the latter is pushed ahead. In this way the heat and smoke is avoided, although in some instances it is necessary to tow Idler instead of pushing her.

LA TREGO.

LA TREGO—MAIN SALOON, LOOKING FORWARD.

LA TREGO.

OWNED BY LOUIS R. SCHULTZ.

LA TREGO was built after designs originated by Mr. Louis R. Schultz and his wife, and has every comfort that good taste and forethought could provide. The boat is built on a very substantial scow and is seventy-one feet long by about twenty-one feet wide. She is one story high, the roof being about ten feet from the deck. The top of the house has a light railing all around it and is used for a sort of small summer garden.

The interior of the boat, which is occupied by Mr. Schultz, his wife, two children and a man servant, presents a scene of comfort.

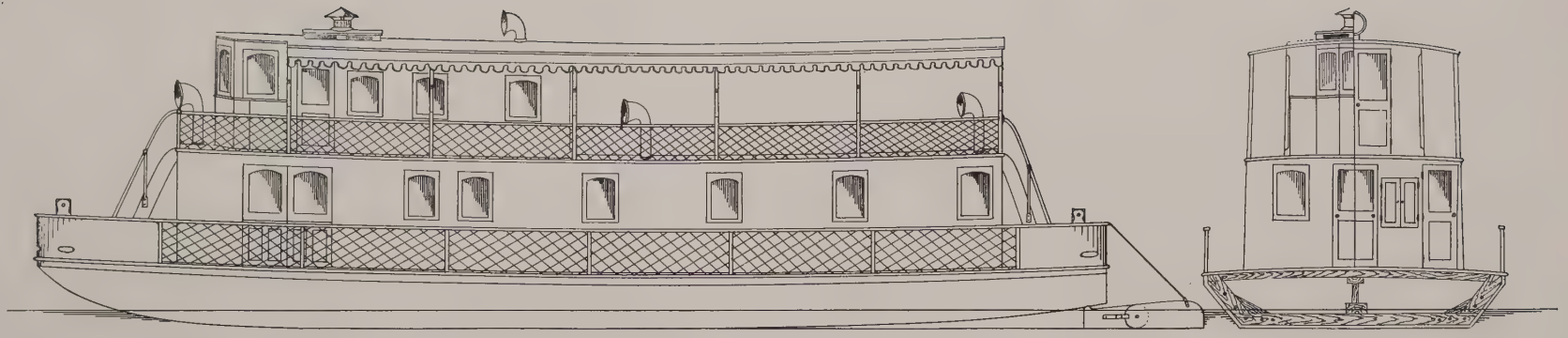
The forward part of the boat can be thrown entirely open to admit all the breeze which is stirring. The living room is about thirty feet by twenty. It is fitted up with easy chairs, rockers, a big sofa bed and around the sides runs a bench seat with a big thick double cushion. The back part of this room is used as a dining room, while one portion of the wall is fitted up with shelves, making a bookcase, which contains several hundred volumes of current literature. On one side is an open fire-place, in which a bright wood fire burns when the nights are chilly. An attractive feature of this houseboat is a Japanese room very neatly furnished, which is even more inviting than the rest of the interior.

At night the big main room is divided off by a system of curtains into four sleeping rooms. For sleeping many little conveniences are unfolded and brought to light, which are hidden from sight during the day. These are on the order of the furnishings of a Pullman car, and were in many cases invented and designed by Mrs. Schultz.

In the rear of the main room is a finely appointed bathroom, with a large porcelain tub and shower bath. Alongside the bathroom is the galley, a combined kitchen and pantry, fitted with every facility for cooking, which is done by a blue-flame oil stove. There is also a big tank with a water heater, which furnishes an ample supply of hot water both for kitchen use and also for the bathroom. The deck forward and aft is covered with an awning.

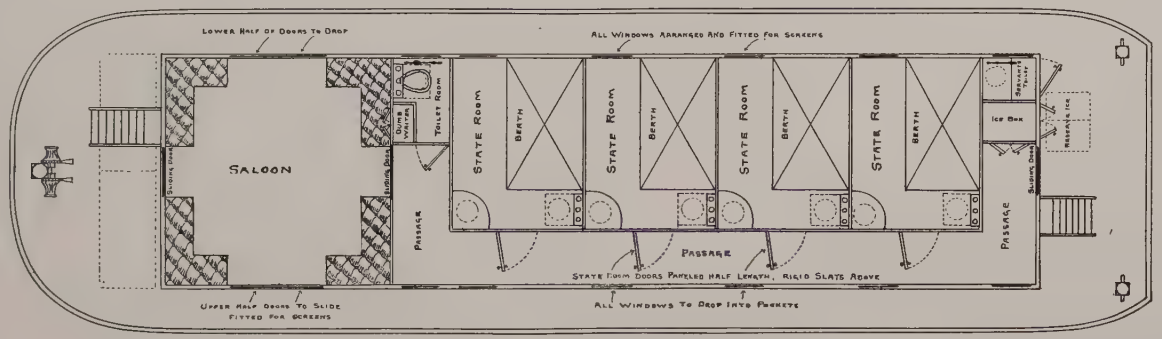
Mr. Schultz and his family have lived on this boat for several seasons, and they have enjoyed the best of health. They made many trips in La Trego, one of which was from Philadelphia to Newbern, North Carolina, a journey by water of about one thousand miles.

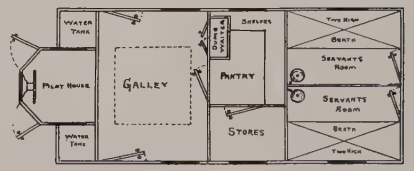
La Trego can be towed by the naphtha launch, which is part of her equipment.



DIMENSIONS:-
LENGTH OVER ALL 60'-0"
" L.W.L. 50'-9"
BEAM O.A. 17'-0"
" L.W.L 14'-9"
DRAFT EXTREME 1'-0"

HOUSE BOAT
DESIGNED FOR
U. G. OSENDORFF ESQ.
CANTON, ILL.
BY
FRED. W. MARTIN
WAUKEGAN, ILL.





SIXTY FOOT HOUSEBOAT—OUTBOARD PROFILE, MIDSHIP SECTION AND CABIN PLANS.

SIXTY FOOT HOUSEBOAT.

OWNED BY W. G. ORENDORFF.

THE houseboats used on western rivers vary greatly in size and type. The boat shown on page 172 was designed by Mr. Fred W. Martin for Mr. W. G. Orendorff, of Canton, Illinois. She is of very shallow draft, drawing, when loaded, only twelve inches, and is intended for use on the Mississippi and tributaries.

The hull is a flat bottomed scow with a round bow and flaring sides. The cabin house is set in a little from the outer rail, and there is a passageway all around it.

The saloon is in the bow and is almost square. A door in the forward end leads to the deck, while opposite is another door that opens on the passage that extends the entire length of the cabin house.

Just aft of the saloon is the toilet room, then come four staterooms, all of which are identical in size and fittings.

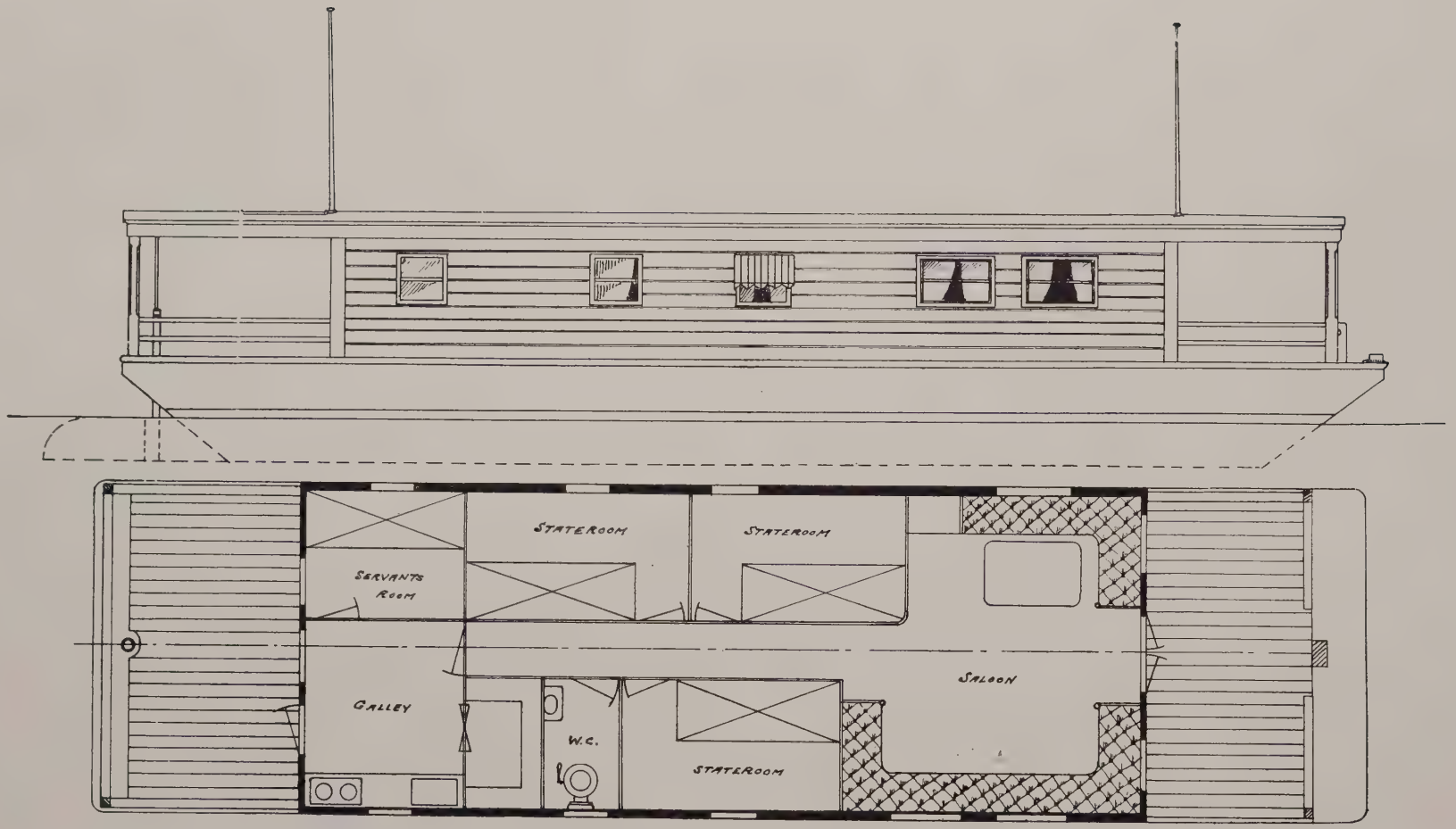
In the after end of the cabin house and reached from the deck is a large ice-box and the servants' toilet room.

Companionways, both forward and aft, lead to the upper deck, part of which is occupied by a small house.

The pilot house is located in the forward part, and on either side are large water tanks which extend up as high as the windows. Aft of the pilot house is the galley, and connecting with it is the pantry and storeroom. In the after end of this house there are two servants' rooms. The remainder of the deck not taken up by the smaller house is covered with an awning.

The boat is sixty feet long over all, fifty-one feet long on the waterline, seventeen feet wide on deck, fourteen feet nine inches width at the waterline, and one foot draft.

It was intended that this boat should be towed from place to place by a tender in the shape of a powerful launch.



FIFTY FOOT HOUSEBOAT—OUTBOARD PROFILE AND CABIN PLAN.

FIFTY FOOT HOUSEBOAT.

DESIGNED BY SWASEY, RAYMOND & PAGE.

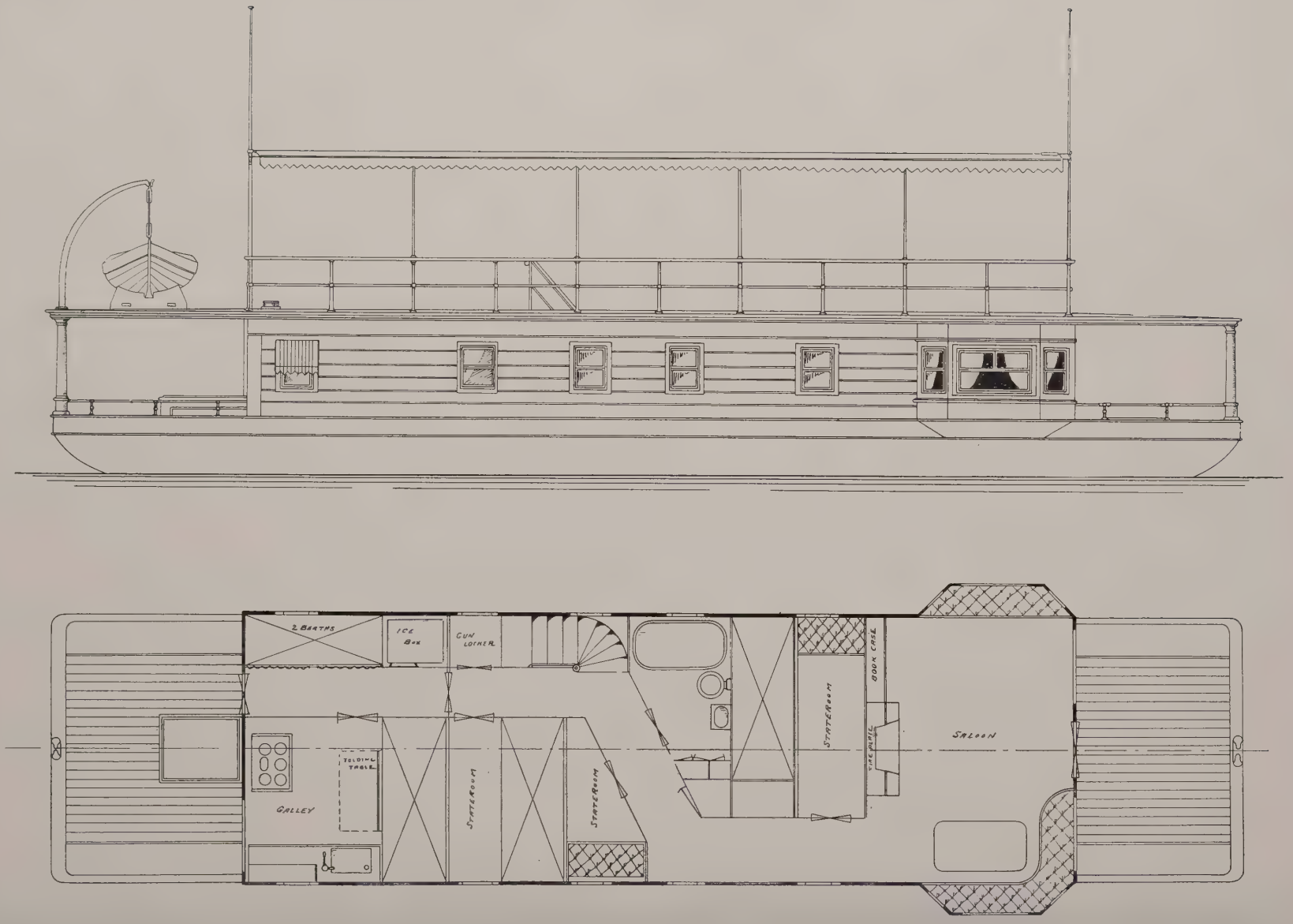
THE plans of the houseboat that we publish herewith were made by Messrs. Swasey, Raymond & Page. The design shows a craft of simple construction and large accommodation that could be built at a comparatively small cost. The boat is of the stationary type having neither sail nor motive power, and would have to be towed from place to place.

She is forty-nine feet six inches over all, forty-four feet six inches waterline, thirteen feet breadth and one foot eight inches draft. The forward deck is six feet six inches long and the after deck is seven feet six inches long. The cabin house is thirty-four feet long and the roof over this extends the full width and length of the boat in order to give protection to the forward and after deck. The sides and the ends of the cabin house are covered with weather boards in order to make the cabins warm and tight. The roof is covered with canvas and by putting up iron stanchions it could be covered with a canvas awning so as to afford protection from the rain and sun. This would make a comfortable lounging place and would make the cabins much cooler as the awning would protect the roof of the cabin from the sun's direct rays.

The main saloon is in the forward end of the boat. This room is twelve feet wide and eleven feet six inches long, and has windows on three sides. Wide lounges extend around four sides of the cabin. A passageway two feet three inches wide runs aft from the main cabin to the galley. On the port side of the passage are two staterooms eight feet long and five feet wide. On the starboard side is another stateroom eight feet long and five feet wide, and a toilet room three feet by five feet.

The galley is six feet six inches long and seven feet six inches wide. Opening from the galley is a pantry three feet by five feet. On the port side of the galley is the servants' room, five feet wide and six feet six inches long.

This plan conveys a good idea of what a large amount of room may be had on a small houseboat. The interior arrangement could, of course, be changed to meet special requirements, but the room has been economically and carefully disposed of in every way.



FORTY-FIVE FOOT HOUSEBOAT—OUTBOARD PROFILE AND CABIN PLAN.

FORTY-FIVE FOOT HOUSEBOAT.

DESIGNED BY SWASEY, RAYMOND & PAGE.

A SCOW about fifty feet in length affords possibilities to anyone who has the faculty to plan economically. The plan published on page 176 shows what can be done with a scow forty-five feet three inches long over all, forty-one feet five inches on the waterline and eleven feet wide.

The interior arrangement is unusual but satisfactory, and the projecting bay windows add much to the attractiveness of the saloon or living room. If the boat is to be towed through narrow places, such as canals or locks, it would be advisable to omit these pleasing features from the design, and, in any event, they should be protected. This could easily be done by the addition of running-boards about two feet on either side.

The cabin house is thirty-one and one-half feet long, and it contains, besides the saloon and galley, three staterooms and a bath. The deck space at the forward and after ends of the cabin house is the same. It is six feet long and ten feet six inches wide.

Coming on board one lands on the forward deck. A door leads to the saloon, which is eight feet long and eleven feet wide. Window seats are placed in the bays, and there is a fire-place at the after end. There are windows on three sides which insure plenty of light and ventilation.

On the starboard side is a passageway leading aft. Just aft of the saloon is a stateroom which is reached from the passageway. This room contains a berth, sofa, bureau, etc. Adjoining this room is the bath, which is fitted with a tub, basin and closet. The bath opens on the passageway, which runs diagonally athwartships.

Opposite the bath is another stateroom of fair size but irregular shape. This room is fitted up very much the same as the first.

At the end of the diagonal passageway is the staircase which leads through a companionway to the upper deck. Under this stairway is a gun closet, where luggage, etc., can also be stored.

Across the passageway from the gun locker is a door leading to another stateroom.

A door at the end of the passageway gives access to the service quarters. On the port side is a sizeable ice-box and two berths for servants. On the starboard side is the galley, five by six feet, and fitted up with all conveniences.

A water tank is placed on the after deck at sufficient height to give a gravity flow to the wash basins, bathtub, etc.

The upper deck is protected by an awning and a rowboat is carried on the davits aft.

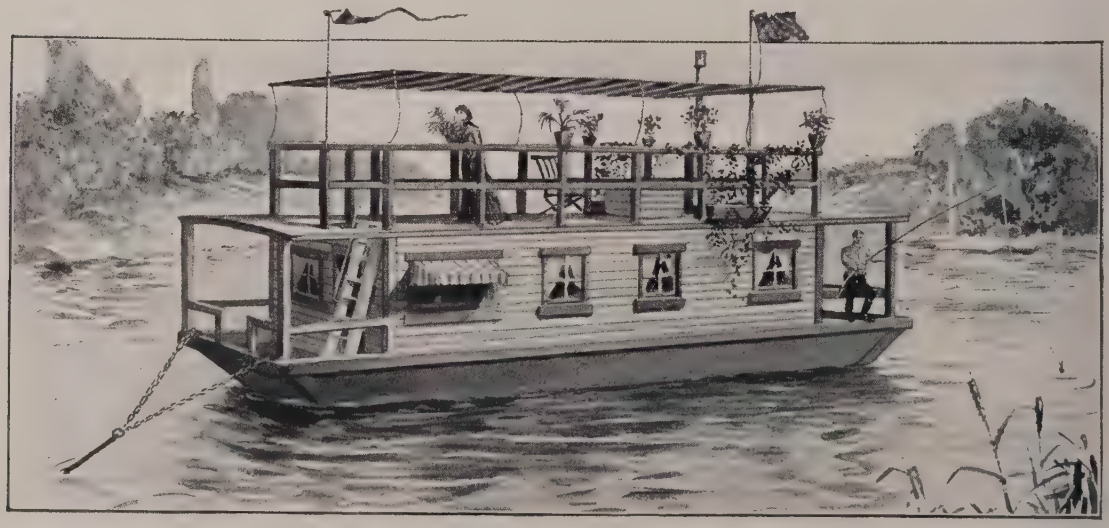
A THIRTY-FOUR FOOT HOUSEBOAT,

COSTING NINE HUNDRED DOLLARS.

BY ARTHUR B. RAYMOND.

IN the design I have prepared my endeavor has been to secure a boat having comfortable accommodations for four people, and for one or two servants if desired, and yet to keep it small enough to be easily shipped anywhere by rail. It has been arranged to accommodate two extra persons by curtaining off the cabin at night, as shown by the dotted line. The cabin seat can be converted into a berth, and above this what is known as a pipe berth can be put up at night. This is made of an iron pipe frame, one side being fastened to the side wall, the outer side being supported by two chains from the deck beams above. In the daytime the whole thing can be taken down and stowed away. A similar berth can be fitted in the servants' room in case two are taken.

The boat is entered from the forward deck, a ladder-way also leading from this deck to the upper deck. The cabin has a large L seat with lockers underneath, and windows on each side, which, in addition to the window at the front, make it light and airy. In the center is a portable table which can be used both as a dining and library table. A hallway on the port side leads to the after end, and from this hallway open the two staterooms, each one of which has an upper and a lower berth. The windows in the staterooms and in the hallway are so arranged that everything is well ventilated, and even in the



THE THIRTY-FOUR FOOT HOUSEBOAT AT HER ANCHORAGE.

warmest weather, by opening the doors or curtains, the air will circulate through.

Aft of the state-rooms is the toilet room. At the stern, on the starboard side, is the galley, and the servants' room on the port side. The after deck can be used as a part of the galley and as a laundry, affording a place also for the ice-box. The upper deck has a rail surrounding it, and a portable awning which makes it a most pleasant lounging place. Here, also, is placed the water tank which gives a gravity flow to the toilet room and galley.

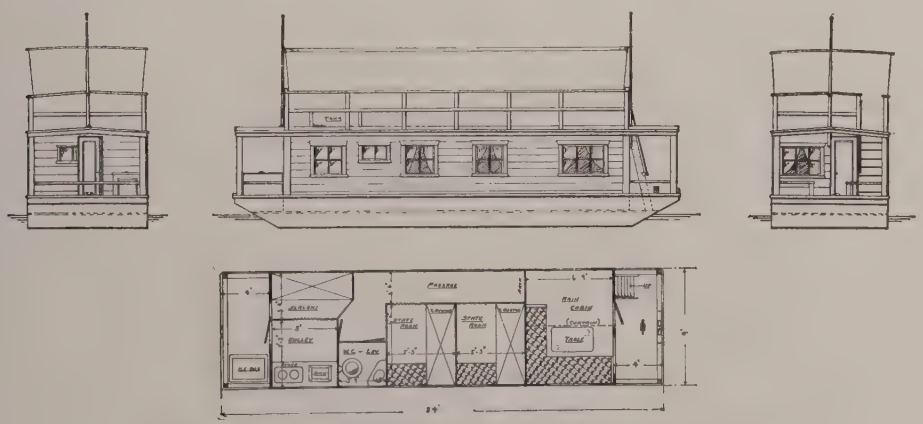
THE MAIN CABIN.

There are many very beautiful places for anchoring a houseboat where the water is very shallow. For this reason I have limited the draft of the scow to one foot. The length is thirty-four feet and the width nine feet. Built in a sound, substantial manner, the boat, with its equipment, furnishings and stores on board, will weigh eight tons, or about eighteen thousand pounds.

In order to come within the limit of cost it will be necessary to avoid expensive furnishings, but everything can be neat and of good quality. In making an estimate of the cost I have divided the total into eight items.

The first is the scow or boat proper. The frame is of oak and hard pine, and the planking is also of hard pine. All the fastenings should be of galvanized iron. The seams must be carefully caulked with cotton to make them water-tight, and then the outside is planed smooth and is ready for painting. The floor is put in next and the scow or boat part is complete.

The second item is the house part, the



THE THIRTY-FOUR FOOT HOUSEBOAT.—CABIN PLAN, SIDE AND END ELEVATIONS.

framework of which should be of spruce and the covering of pine. This includes the roof, which is covered with canvas and painted, making it water-tight. Then the partitions are put in. After the frames for the seats and berths are built the painting is done.

The third item includes the cost of painting the scow, the house and the canvas deck.

Item four is for plumbing, and has been kept very low by placing all the plumbing together, thus doing away with a great amount of piping. Likewise, by placing the water tank above, where it can be used also as a seat, we do away with any need of pumps. The figure given includes the tank, the closet, the basin and the galley sink and all piping.

The fifth item, equipment, includes two chocks for the ropes to run through, two anchors, two mooring-lines each sixty feet long, the towing-post, two flagpoles and their fittings, two cleats and two lanterns.

The sixth item, fittings, refers to the rails, the ladder, hardware, such as hinges, knobs, etc., the doors, windows, lockers under the cabin seat and under the stateroom seats, besides lockers in the galley and the ice-box.

The seventh item, furnishings, includes curtain rods and curtains for all windows, cushions for the seats, carpet rugs for the cabin and staterooms, linoleum for the passageway, toilet, galley and servants' room, five lamps, cabin table, clothes-hooks, towel-racks, three mirrors, oil stove for galley, two oil-cans, four drinking-water jugs, mattresses for berths, awning, and six camp stools for use on upper deck.

Finally, I have allowed the builder a reasonable profit of ten per cent. The figures are as follows:

Scow	$200.00
House	216.00
Painting	40.00
Plumbing	80.00
Equipment	50.00
Fittings	115.00
Furnishings	109.00
Builder's Profit	90.00
Total	$900.00

It will be seen that in order to have the houseboat ready for occupancy at the shortest notice the owner need but pack a single trunk, or box, with the necessary bedding, table linen, kitchen utensils, and a small amount of crockery and silverware taken from the home supply.

A TWENTY-SIX FOOT HOUSEBOAT.

COSTING SIX HUNDRED DOLLARS.

IT is much simpler for a bachelor to find suitable quarters either in winter or summer than for the family man. But at times even the bachelor must study out some perplexing conditions regarding his home.

The man who resides in town during the winter can generally find satisfactory rooms to meet the requirements of his pocketbook. When summer comes and he wants to get out of town the situation is more difficult. Wherever he goes he must be on the water and within commuting distance of the city. Hotels are expensive and uncomfortable, and everywhere there are mosquitoes. How can these unpleasant things be overcome? The answer is simple. Build or buy a houseboat.

This is about the way Mr. Charles D. Mower, the well known naval architect and writer on marine subjects, reasoned before he built his small houseboat, Hostess. The boat was built and she has been tried long enough to have passed the experimental stage. The project has worked out to a nicety. Mr. Mower keeps Hostess at a mooring in Manhasset Bay, one of Long Island Sound's most attractive and comfortable harbors.

The Manhasset Bay Yacht Club house is where he makes his headquarters. Meals can

HOSTESS AT HER ANCHORAGE.

be obtained there at any time, and all conveniences are at hand. It is but a short drive from the club house to the railway station, and express trains make good time to New York.

At night the houseboat is always cool and absolutely free from mosquitoes, no matter how annoying they are ashore.

After considering all types of houseboats Mr. Mower felt that the best plan would be to build a scow, have a house put on and finish the interior himself.

The result was a tight, sound, flat bottomed scow square at each end. For a minimum outlay of money this gave a maximum amount of room.

HOSTESS RIDING OUT A GALE.

Before deciding on the size of boat to build many sketches were made, and the interior was in a measure planned to accommodate certain furniture and belongings used by the owner in his quarters ashore. When the first of May came and the winter quarters in the city were given up, the lares and penates were placed aboard the boat that had been put in readiness to receive them.

It was finally settled upon that a house ten feet by twenty would give the necessary room. This made possible a saloon or living room nine feet by ten, a bedroom eight by ten feet and a three by ten-foot space for the galley and toilet.

Deck room at either end was secured by making the scow twenty-six feet long over all, giving three feet at either end. Later, an extension eighteen inches wide was put on aft and footboards of the same width were added on the sides for convenience in getting in and out of the tender when alongside.

When Hostess left the yard of the builders, the New York Kerosene Oil Engine Company, of College Point, Long Island, she was complete except in so far as the interior was concerned. The sides of the scow were painted black above the waterline and green below. The house was tinted a deep red, which was relieved by the white on the window sash, trim, etc. The deck and the cabin top were painted yellow.

The after deck is dropped six inches from the top of the scow in order to give full head room in the doorway. A Dutch door leads to the living room, which is in the after end of the house.

When the owner started to work on the interior he found it quite unfinished and rough. The ceiling and deck beams were first given several coats of white paint, which filled and covered all imperfections. The scheme laid out for the interior decorating was to stain the studs a deep color and cover the space between with burlap.

In the living room the studs were stained a dark coach green, while in the stateroom a light brown or russet color was used. Olive

THE MAIN CABIN, LOOKING FORWARD.

THE MAIN CABIN, LOOKING AFT.

STATEROOM, LOOKING FORWARD.

green burlap was used in the living room, and in the bedroom it was a golden brown.

The burlap was first tacked up and then quarter round mouldings, previously stained to match the studs, were put in place. These covered the tack heads and gave the panel effect desired. Dark moulding placed in the ceiling outlined the panels clearly.

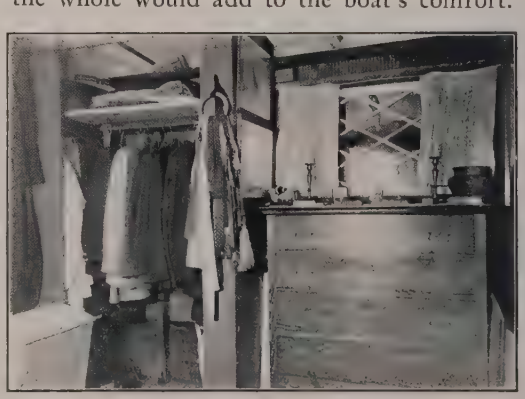
The living room furnishings consist of a broad couch fitted with a woven-wire spring and hair mattress, which is occasionally used as a spare berth; an attractive blue cover and plenty of pillows make it a comfortable lounging place at any time. At the end of the couch is a bookcase built into the corner, the upper shelves serving as a sideboard and the lower ones for magazines and books. Small racks are fitted for glasses in between the beams above. A writing table is placed to the left of the doorway leading to the stateroom, and above are bookshelves. At the desk is a large armchair. The other two pieces in this room include a straight-backed chair and a Morris chair. A large rug covers most of the floor. A reading lamp placed on the desk gives ample artificial light. The candles placed in brackets on the walls are more for effect than for practical use.

On the left-hand side of the stateroom is placed a simple iron bedstead. On the opposite side is a chiffonier under the window and a large clothes-press.

The galley is in the forward end of the house. There is built in for the two-burner Khotal stove a shelf with drawers below. Racks are placed above in which to store dishes, etc. It was the owner's intention to place an ice-box under the forward deck; this was not carried out, however, and while its absence was not greatly felt it would be well to put one in.

While Hostess is laid out with the idea of accommodating one person, she is very comfortable for two, and by setting up folding canvas cots she can take care of four.

A bathing ladder over the side makes it easy to get from the water on to the boat again. On moonlight nights the cabin top is utilized. Rugs and pillows are spread on there, and after dinner the owner and his guests find it a very attractive retreat. The cabin top is not covered by an awning, so it is hardly a desirable lounging place during the day. According to our own notions, a rail around the cabin top and an awning covering the whole would add to the boat's comfort.



STARBOARD SIDE OF STATEROOM.

A small sailboat or launch doubles the pleasure of a holiday spent on a houseboat. A canoe is also a most desirable adjunct.

Most people believe that it is almost necessary to have some means by which to move a houseboat from place to place. Mr. Mower, when he wants a change of scene, finds that a day's run in the launch gives him all that he needs. He feels that the charm of houseboating is in no way destroyed or impaired by remaining at a mooring in one place.

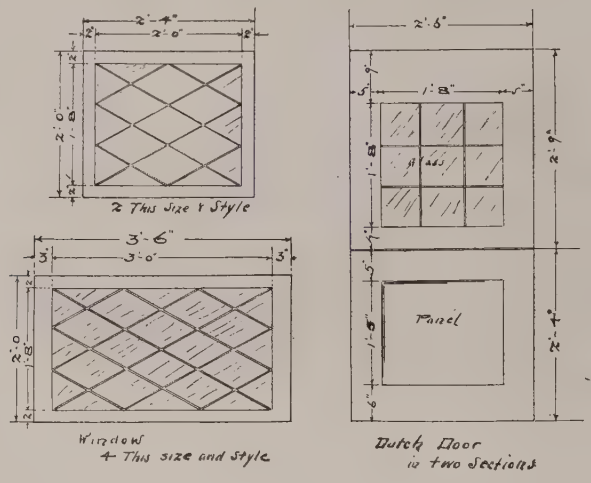
We are able to satisfy those to whom the question of cost is an all-important consideration. The original contract was for $294. The extras, including the running-boards, rails, special sash and doors, installing plumbing, etc., ran the cost up about one hundred dollars more. The interior can be furnished and fitted up and a mooring added for less than one hundred dollars more.

THE GALLEY.

Hostess' over all dimensions are ten by twenty-six feet, and the sides are two feet six inches high. The bottom is perfectly flat and is of one and one-half-inch yellow pine planked athwartships. Three fore and aft stringers, three by four inches, give additional stiffness, and all seams are caulked with oakum. Yellow pine one and one-half inch thick is also used for the sides, and they are stiffened by the studs that run down to the stringers on each side. Rabbeted weather-boarding three-fourths inch thick is used on the sides and ends of the house. The top of the house is tongue-and-grooved pine seven-eighths inch thick, the entire roof is covered with canvas painted. Spruce beams one and one-fourth inch thick are used. At the center, the highest point of the crown, they are six inches in depth. The cabin floor is laid on the bottom stringers, and there is six feet six inches head room under the deck beams. The diamond-paned windows add much to the boat's effect. They are hung at the top and hinged so they will open out at the bottom. This is a satisfactory method, as the window can be left open during a shower and yet serve to protect the interior, rain seldom finding its way inside.

All necessary information is given on the accompanying very complete working and detail plans.

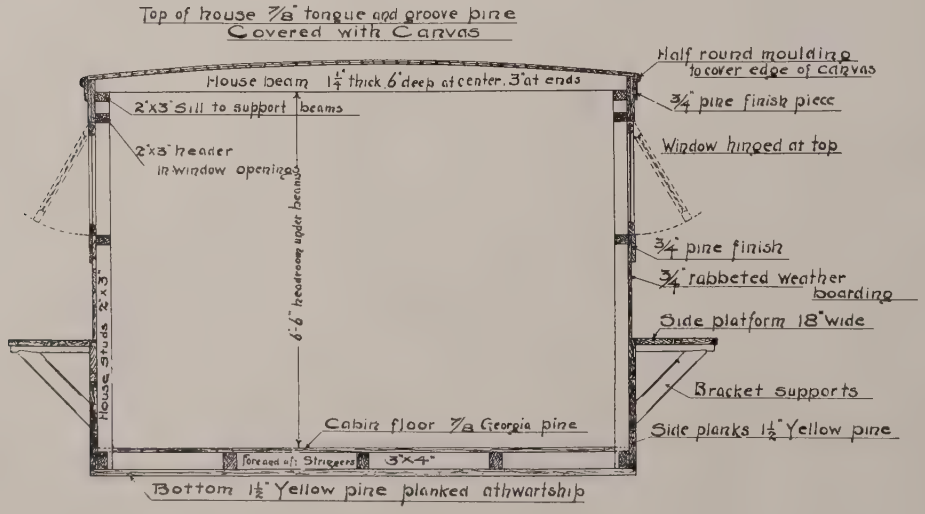
Hostess' mooring consists of a three-hundred-and-fifty-pound Fair Haven mushroom mooring anchor, two lengths of five-sixteenths



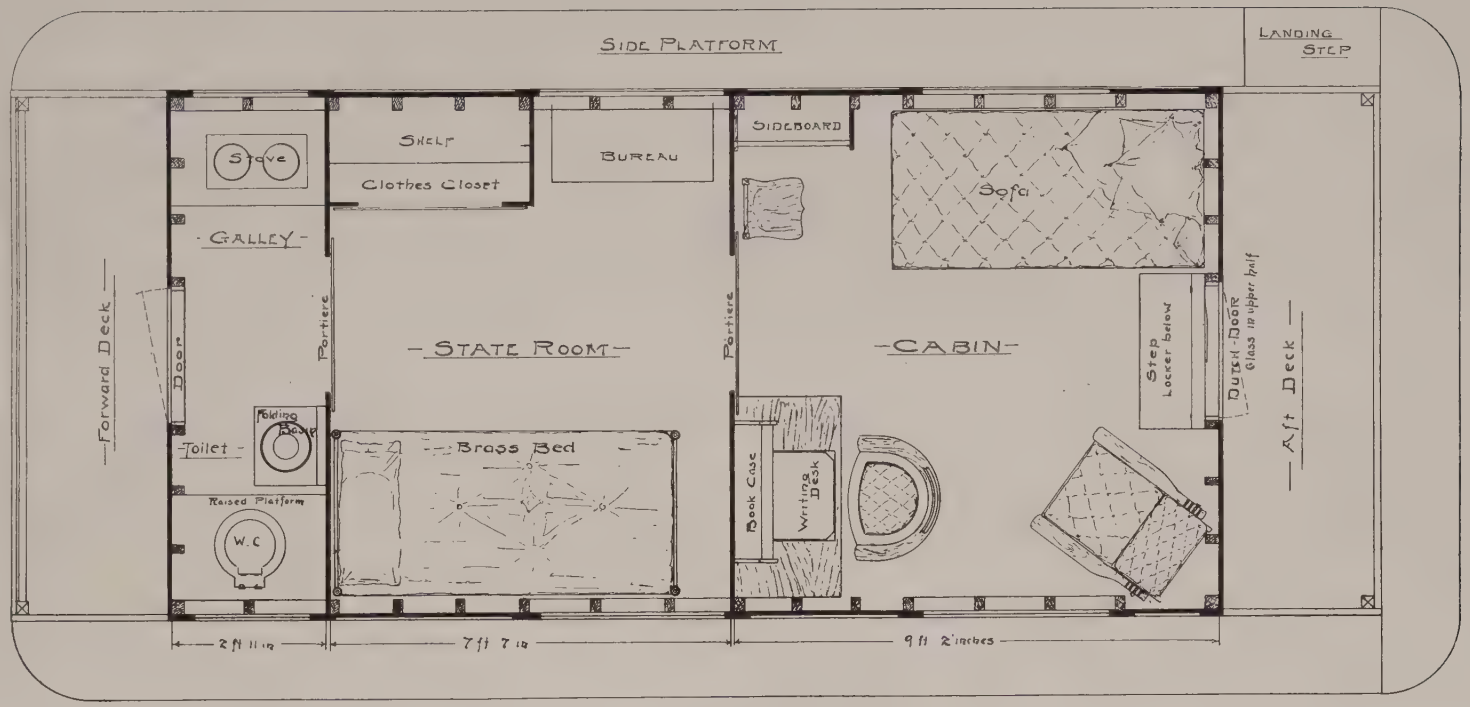
HOSTESS—DETAIL OF DOORS AND WINDOWS.

inch chain, which are shackled to a heavy swivel in the main chain three-eighths inch in diameter, which give the boat a scope of about fifty feet. The ends of the bridle of five-sixteenths inch chain are shackled to heavy wrought-iron chain-plates bolted on either side of the bow.

Hostess has encountered some boisterous weather, but never dragged her mooring a particle.

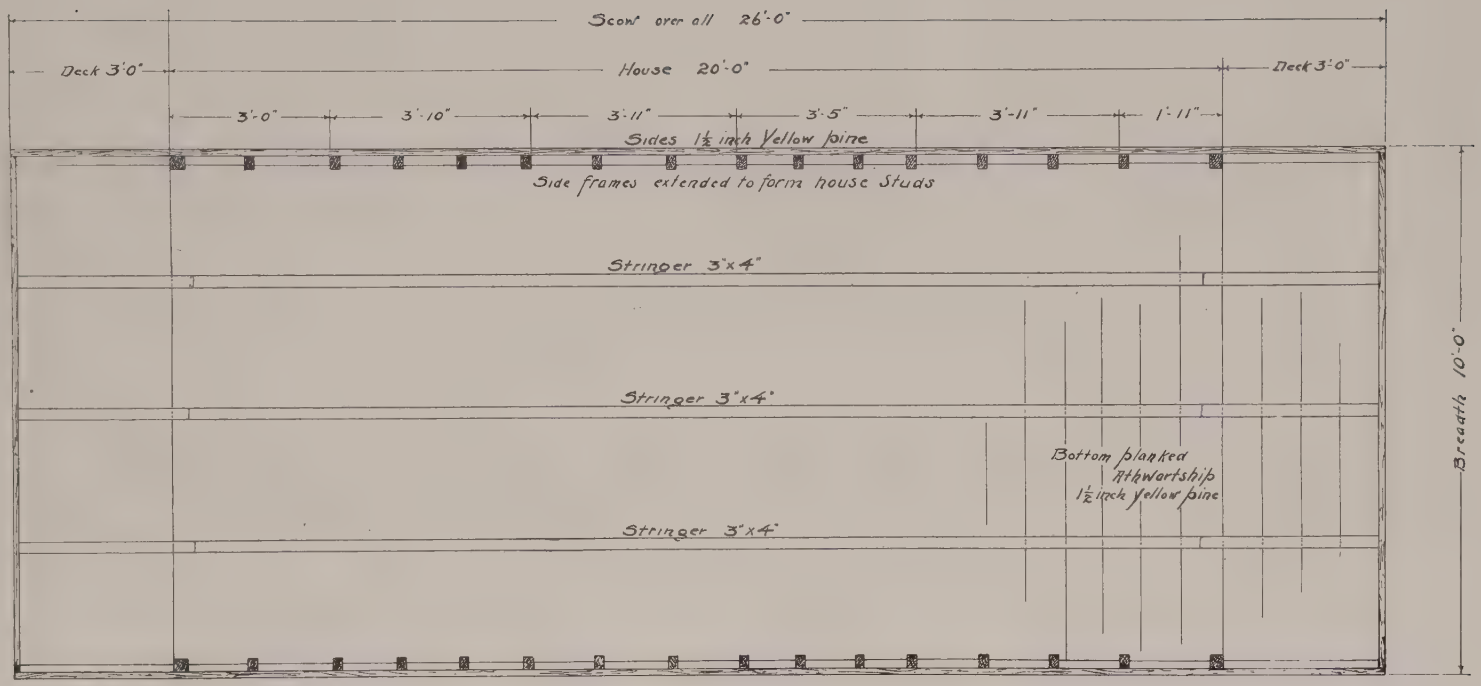

Top of house 7/8" tongue and groove pine
Covered with Canvas
Half round moulding
to cover edge of canvas
House beam 1½" thick 6" deep at center, 3" at ends
¾" pine finish piece
2"x3" Sill to support beams
Window hinged at top
2"x3" header
in window opening
¾" pine finish
¾" rabbeted weather
boarding
Side platform 18" wide
Bracket supports
Cabin floor 7/8 Georgia pine
Side planks 1½" Yellow pine
Bottom 1½" Yellow pine planked athwartship

HOSTESS—CONSTRUCTION PLAN.

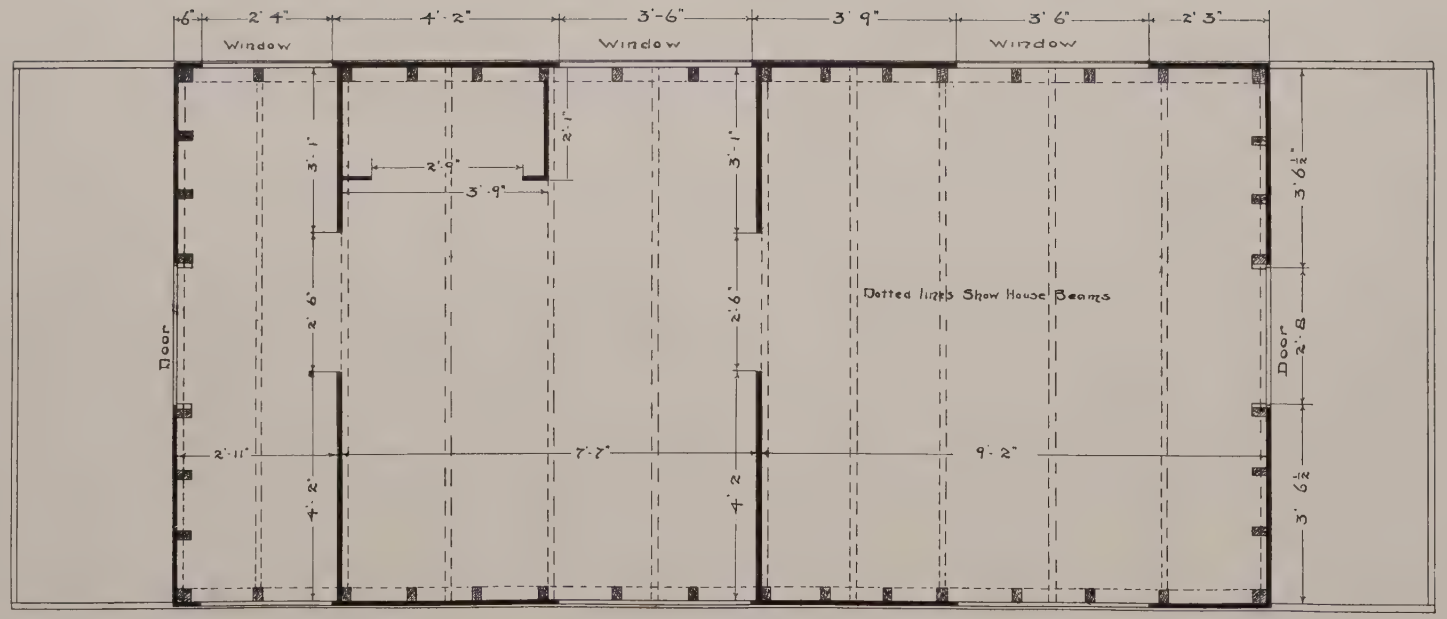


HOSTESS—ACCOMMODATION PLAN.

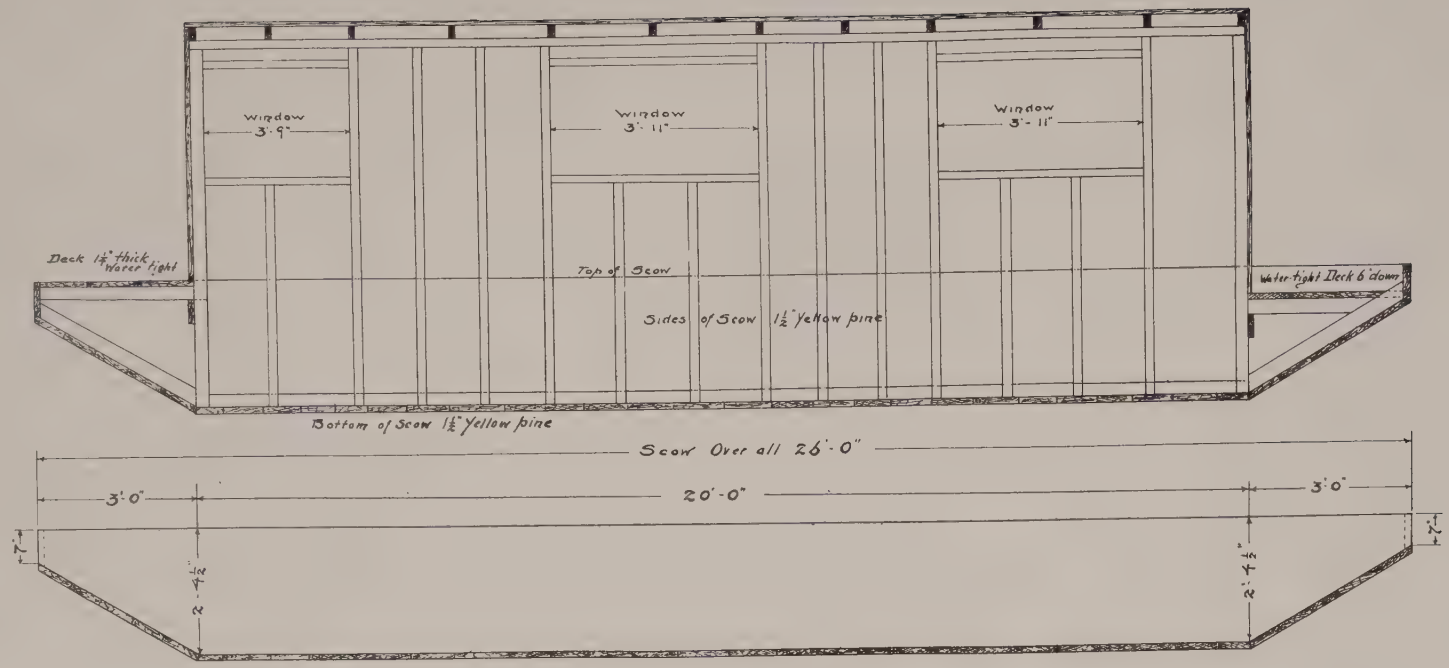
HOSTESS—OUTBOARD PROFILE AND INBOARD ELEVATION.



HOSTESS—CONSTRUCTION PLAN.



HOSTESS—INTERIOR ARRANGEMENT.



HOSTESS—CONSTRUCTION PLAN.

INTERIOR FITTING AND FURNISHING.

BY ALBERT BRADLEE HUNT.

WHILE for a greater part of the time spent on a houseboat one is in the open air, still bad weather and other causes keep one under cover more or less, and it is at these times that one appreciates the value of a comfortable and home-like interior.

The following remarks on the fitting up and furnishing of the interiors of houseboats are intended to apply more particularly to the craft of moderate and small size. Simplicity is the keynote of the entire situation, and that should be borne in mind from start to finish.

The owner of a houseboat should have almost the entire say in the matter under discussion, for he is the one to be suited. Many men build boats of this type and leave the interior furnishing and fitting in the hands of the designer or builder, and the result is far from satisfactory.

In most cases the owner has a wife or some relative who will share the comforts, happiness and health to be derived from such a life, and he may well look to the feminine side of the family for suggestions and help. No house is quite complete without the atmosphere which a woman gives it, and the same thing may be said of the houseboat. The feminine touch is always apparent and adds its peculiar completeness and charm.

The amusement and satisfaction to be had from fitting up one's own home are of great importance; then, again, if one does the work oneself there is certain satisfaction in knowing that it was accomplished through one's own efforts, and in case it is not satisfactory, which seldom happens, there is no one to blame.

While the houseboat affords much more room than the yacht and almost the comfort of quarters ashore, it must be borne in mind that living on the water is far different from life on land.

Dampness is ever present, but this can be overcome in so far as health and comfort is concerned by judicious furnishings and decorations. To be really comfortable, the houseboat should be free from dampness, and the interior must always smell as sweet and be as clean as it is possible to make it by means of good ventilation and proper attention to cleanliness.

In every room, no matter how large or small, there are always four factors to be dealt with, namely, the floor, walls, ceiling and openings. In openings are included windows, doors, archways and fire-places. The number, location and size of the windows determine the amount of natural light available, which is indeed an important factor when the color scheme is considered.

The use to which a room is put regulates in a great measure what its fittings and decora-

tion shall be. Houseboats, no matter where used, are generally in commission during the seasons when there is sunlight in abundance. Then, again, good-sized windows are possible, so that the interiors should invariably be light and cheerful. The reflection from the water is another factor and should not be forgotten, and the light is sometimes very trying, for it is much more brilliant than when ashore.

In carrying out the scheme for an interior it should be borne in mind that the good features should be made prominent and the defects should be subordinated. In order to prevent even the houseboat from being topheavy, the height is kept down as much as possible, and therefore low ceilings will prevail in almost every instance. This is hardly an objection, for in most cases it lends not only to the homeliness of the interior but adds to the apparent size of the rooms. Where rooms are not of good proportion there should be careful treatment. If there is a long wall it can be broken up with furniture or panels, while the short wall must be left as unencumbered as possible. On all but the most pretentious boats formal treatments should be frankly eschewed. One should be able to tell at a glance for what each room is intended. The furniture, like the furnishings, should not have the slightest suggestion of pretense, and everything should be useful and substantial.

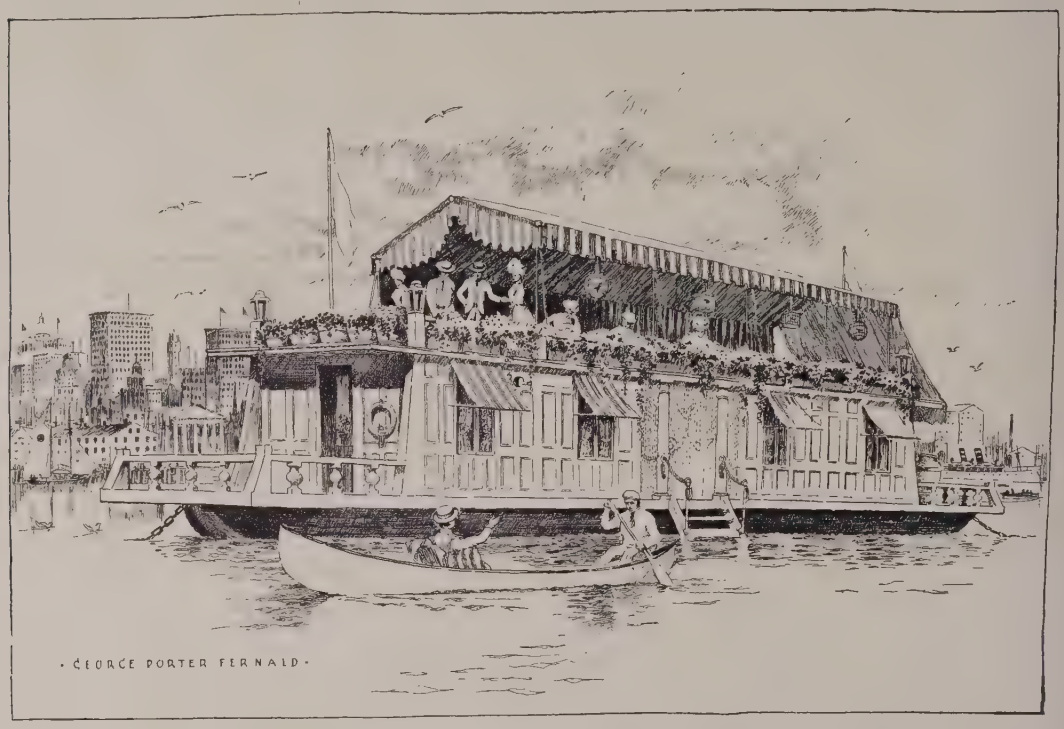
THE HOUSEBOAT CONCH SHELL—A DECK VIEW.

There never was a houseboat built and there never will be one that is large enough to hold useless objects of decoration, whether it be furniture or bric-a-brac. It has been remarked that nothing can be beautiful unless it is useful, and it is well to keep that very helpful saying in mind from start to finish. You cannot go far wrong then, and the result will be much better than it otherwise would have been.

The work should be done very systematically and the entire problem should be given the greatest thought and study before anything is purchased. In this way many disheartening blunders can be avoided and much money can be saved.

The windows, in most cases, will extend pretty well up to the top of the wall. This is brought about through the low ceilings, and in order to secure the light and air where most needed this is necessary. The windows will be broad and kept up pretty well from the floor.

Windows that slide either sideways or up



THE HOUSEBOAT CONCH SHELL—SHOWING THE FLOWER BOXES AND AWNINGS.

and down are usually the most practical for use on the houseboat. In some cases the window sliding sideways is not possible, but it has the distinct advantage when open of admitting all the air the opening will permit, and next to admitting of light this is the most important use to which the window is put.

The window that is hinged at either side and swings in or out will hardly prove satisfactory if screens, outside or inside blinds are to be used. Then, again, if a window of this type is not securely fastened, a sudden gust of wind would cause it to slam, and crack or break the glass. The window hinged at the top and opening outward has been found very satisfactory, for it admits ventilation and yet keeps out rain.

The windows are a very important feature and the best kind and type to use must be regulated by conditions that prevail, and as these vary in almost every case, no hard and fast rule can be laid down.

Leaded glass windows add much to the artistic effect, both from the interior and exterior, and the leads break the glare reflected from the water. Wooden strips, making the diamond or square panes, are perhaps a little more practical, as the glass can be more easily replaced in case one is broken.

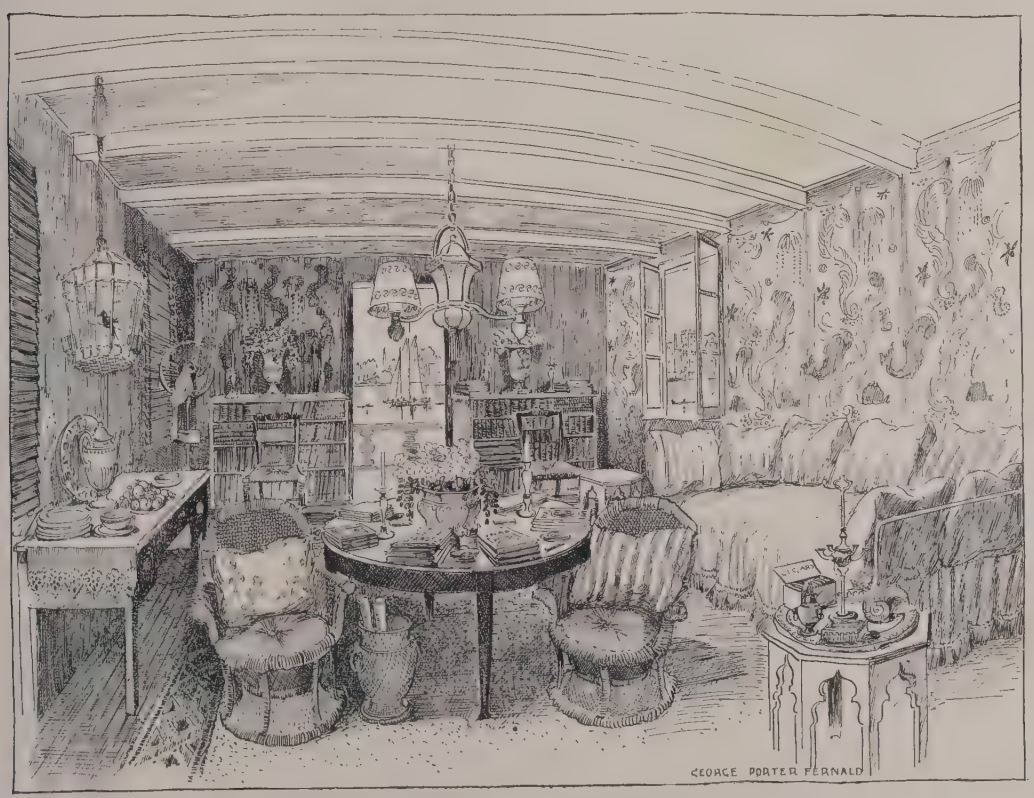
Windows must be decorated so as to be in harmony with the room into which they open. It always looks well to have simple muslin curtains, either plain, dotted or striped, hung on small brass rods next to the window. These curtains give an air of freshness and cleanliness that can be gained in no other way. They are easily washed and are never in the way.

If a need for other curtains is felt there are many materials that can be looked to—chintzes, cretonnes, denims and brocades all are good. If any of these goods are used they should be hung on brass poles with good solid brass rings, and when so desired could be drawn over to soften the light. Curtains should hang straight down and must not be looped up in meaningless and inartistic ways.

Doors are indeed an awkward problem. On a boat a swinging door is a great nuisance, no matter which way it opens it is in the way. Sliding doors do not take up so much room but they are liable to stick and jam. When possible it is better to use the ordinary hinged door. There are times, however, when the sliding door will have to be resorted to. There are some openings where doors are not needed, but if a room is ever to be used as a bedroom it should have a door, so that the occupant may have privacy.

The fire-place on the houseboat is perfectly practicable and it is never omitted by those who wish to be warm on cold nights and dispel dampness after prolonged bad or foggy weather. The fire-place can hardly be built of brick according to the method usually followed ashore, but it can be a very substantial affair faced up with tile and can be adapted to burn either coal or wood. There is nothing so decorative as a well designed fire-place.

In dealing with the interior decorations we



THE HOUSEBOAT CONCH SHELL—A VERY SIMPLE YET CHARMING INTERIOR.

TWO VIEWS OF THE MAIN CABIN OF A VERY LUXURIOUS HOUSEBOAT.

will begin with the floors and floor coverings. The floors should be of very clear, well-seasoned stock. This need not be of the most expensive grade, as it should be painted with several coats of some good floor paint of a dark color.

The floor of a room is in a sense its foundation from the decorative standpoint. As a general thing the tone of the floor should be darker than the walls, which in turn are darker than the ceiling. This graduation of color gives the effect of airiness and height. Attention should be paid to floor coverings, as a carpet of incongruous pattern and color or an unsuitable rug will greatly mar a room, no matter how perfect it may be in other details.

For living or dining rooms, rugs or carpets sewed together, so as to make a rug which will cover the center of the room, is the most satisfactory. If a carpet rug is settled upon it should not be so large but that it could be taken on deck readily for beating and cleaning. This is important, as on many houseboats the work is done by women or maid servants, and they could hardly be expected to undertake anything very laborious.

Rugs will make the ideal floor covering. Those of the cheap variety should be avoided, for the color does not stand and, as a rule, the patterns are of a character to preclude use. There are, however, rugs to be had at a moderate figure that are really good in every regard. Most of these are made in solid colors or in simple designs by the numerous arts and crafts societies which are now thriving all over the country, and to whom the people at large are indebted for a very wholesome wave of reform in the matter of good decoration along sound, simple lines.

Oriental rugs are very desirable, but their expense will prevent their use becoming general on houseboats.

The floors of passageways and bedrooms should be painted and a strip of carpet should extend the length of the former. Nothing sounds so hollow and looks so dreary as an uncarpeted hallway. Bedroom floors may be carpeted or rugs may cover that part of the floor beside the bed which is most walked on. Straw matting and grass cloth can also be used to advantage in these rooms.

The bathroom floor should be painted and a bath mat may be placed near the tub or shower. No other covering is necessary and the floor can be wiped up and cleaned very readily. Oil cloth can be used, but nothing is better than a good wooden floor if painted.

In the case of the kitchen it may be well to use oil cloth, for this material does not absorb grease and is easily cleaned. Buy oil cloth of a good grade, for the cheaper qualities are a poor investment and their life is very limited.

The perfect artificial light is electricity, but that may be put aside with hardly any comment, as it is rarely practicable on any but the largest and most expensive houseboats.

Next in point of desirability is acetylene gas, and to-day this system has been perfected to such an extent that it is safe and reliable. It gives a very good and steady light and all odors are eliminated.

Oil lamps give an excellent light, but they are a great care, besides being greasy and of strong odor. In most cases they will have to be used, but much caution should be exercised in handling them.

In selecting gas and oil fixtures, buy only

A BEDROOM AND A BATHROOM ON A HOUSEBOAT.

the best grade in the simplest designs. Candles are impossible and no attempt need be made to use them, for they have been tried and abandoned.

Studs constitute the foundation of most exterior walls of houseboats, and oftentimes a very good result is obtained by leaving them exposed inside, staining them and filling the space between with some goods or stuff, the whole giving the effect of a panel.

Paneling of almost any description, if well done, is usually effective in rooms on a houseboat if they are of sufficient size.

Wall papers need hardly be mentioned, as they are not adapted for use on boats of any description.

The inexpensive materials best suited for use as wall coverings are burlap, book cloth, chintz, brocade and canvas. There are composition materials like lincrusta walton, that stand well, but they are not cheap and are difficult to apply properly.

The stuffs are best applied by tacking on unless in the case of light material, then cover the border with gimp or moulding, which gives the effect of a panel.

In putting on any of these materials it is essential that there be a good background. Instead of sheathing the walls with thin tongue-and-groove material it is very much better to adopt a comparatively new composition known as compo board. Compo board has been in use for a number of years and makes a substantial background for almost anything, as it will take paint, paper or cloth. It comes in sheets about four feet square and about three-eighths of an inch thick. The sheet is of three thicknesses, the center layer being of wood less than three-sixteenths of an inch thick. The outer surfaces are of pulp composition. Compo board does not warp or expand, it can be sawed like wood and cut into any size. It can be applied to studs by either nails or screws. We cannot recommend this material too highly, and as it is less expensive than wood of good quality, its use ought to be very general. The different goods mentioned can be applied to compo board rather better than anything else, and that is another thing in its favor.

Wood paneling is coming more generally into use as a consequence of the cheapening of cost through the introduction of labor-saving machinery. There is not the slightest objection to mechanical production for use on the houseboat. The mouldings are all true, and by the aid of machinery good effects are produced at a moderate price.

For a simple room, paneling need not be employed. Pine or poplar boarding, stained, running from the floor to a plate shelf, is perhaps the cheapest way of getting a good effect. The edges should be beveled where the joints come.

Another effective scheme can be adopted if one has a compo board foundation. Take strips of pine or poplar about two or two and one-half inches wide and of the length required, and make panels about sixteen or eighteen inches wide, and as high as the plate rail or moulding will allow. Then paint or stain the strips and the compo board; the latter should be, however, a lighter shade. This gives a splendid effect.

The treatment of the ceiling should be most simple. Its color should be light. The roof carlins or beams may be allowed to show. In this way one saves the expense of ceiling

them up, and by a little skill they can be made a part of the decorative scheme.

They can be stained to match the paneling or window and door trim, a golden brown or a dark green for instance. Then tint the space between a good chrome yellow. It would improve the appearance of the room if the under side of the roof were covered with canvas before it is painted. That is, however, a matter of taste and is something that can be done at any time.

For living and dining rooms all furniture should be substantially built and suitable for hard usage. Hardwood and expensively finished pieces will soon be ruined. The best furniture is made of rattan and the pieces known as East Indian are desirable. These products can be had at small cost, and when fitted with cushions are very comfortable. When properly made they are practically indestructible, as they are very strong and are not affected by heat or dampness. Morris chairs made of oak, fumed a dark color, are good for lounging and reading. They can now be had at small cost, but if so desired, steamer chairs, which can also be used on deck as well as below, can take their place. Box couches look well and are useful as beds in case the unexpected guests turn up.

Other chairs, desks, tables, etc., should also be very simple and strong. Furniture along the lines of mission and craftsman products are excellent for houseboat use, and we know of nothing better. Avoid any furniture of weak or flimsy appearance, particularly articles having any of the lines of the French styles in them. Nothing is so inappropriate as over-decorative furniture on a houseboat. It is always out of harmony with the surroundings and quite spoils the general scheme.

For the bedrooms we would advise iron bedsteads painted white in place of anything else. Built-in berths or bunks are not as sanitary as the iron bed, which is not only easily cleaned but can be rolled aside and the floor and walls cleaned. It is also much easier to make up. The chairs, bureau and clothes-press can be painted white so they may be in keeping with the chamber's wood-work. With walls covered with chintz or cretonne a very pleasant effect is to be had.

It is well to paint the walls of the kitchen a light shade of pea green and the ceiling a much lighter tone of the same color. The

A SAN FRANCISCO HOUSEBOAT'S INTERIOR.

wood-work to be of a darker color in order to make a proper contrast. All the cooking utensils should be of materials that will not rust. Copper, aluminum and agate ware are all desirable. They are all expensive, but in the long run will be found far more economical.

A large, low water tank placed on the upper deck will permit of running water throughout the boat. This will be found a great convenience and is preferable to pumping. The tank can be so designed as to make a good lounging place when covered with rugs and cushions for those on deck.

A sink is a necessity in the kitchen and it should be of good size and constructed of wood. A good ice-chest will be found a splendid investment, and it should be placed in a cool place well away from the stove. Shelves can be put up on the walls wherever they will be found most convenient.

As most of the time one is aboard a houseboat is spent out of doors it is essential that a good lounging place be had. The upper deck is far and away the most attractive as well as the coolest place. A houseboat without a roof garden or upper deck is, to say the least, incomplete.

The roof or cabin top should be covered with canvas painted. Heavy galvanized stanchions make the best awning supports. A rail two and one-half feet high should extend all around the sides. This can be of wood, iron or wire rope, but should be very strong.

Boxes placed around the edge and filled with bright colored flowers will add much to the upper deck's attractiveness and give diversion to the feminine mind. A good strong awning should cover the entire roof, as it protects the roof and makes the cabins cooler. This awning should be of heavy material, made of khaki or, if of canvas, the underside should be blue or green, as it eases the glare from the water. If properly set up and secured the awning can be left up at all times and should not go adrift in even the heaviest squalls or blows. In case one wishes to enjoy a sun bath, a section of the awning can be rolled back temporarily.

Side curtains should be provided to protect those on deck from the slanting rays of the sun, the glare of the water or from rain and wind. When not in use they can be easily rolled up and stored away, but they will be found a great convenience and will be in pretty general demand.

THE INSIDE ROUTE TO FLORIDA.

BY CAPTAIN THOMAS I. SMITH.

DURING the winter months Florida has become a Mecca for all owners of houseboats who can leave their business long enough to enjoy a sojourn in this wonderful tropical climate.

Many men would like to go South but hesitate about doing so on account of the conflicting and incorrect records that get into print regarding the trip.

Several descriptions of the inside route to Florida have been printed. To those who have really made the trip, these accounts are chiefly notable for their glaring inaccuracy.

The account of the route published herewith is the result of actual experience while in charge of several yachts.

The accuracy of the tables of distances given can be depended upon, as they have been carefully verified.

While the narrative is chiefly the result of rough notes made by the author, he has copied freely from whatever Government or other publications that were available.

The trip is a most pleasant and interesting one, full of fine opportunities for shooting and fishing.

Small steam yachts and power houseboats of light draft are most suitable for the voyage, though, if time admits, it may be made quite as well in a shoal-draft sail yacht.

Part First.

NEW YORK TO CHARLESTON.

Briefly described, the so-called inland route to Florida is as follows:

From New York through the Kills to Perth Amboy, and thence by way of the Raritan River to New Brunswick, N. J. Here you enter the canal, and run to Bordentown. From Bordentown down the Delaware River to Delaware City. Here you again enter a canal, and run to Chesapeake City. From this point you reach Chesapeake Bay, via small rivers.

It is plain sailing, with plenty of harbors between, down Chesapeake Bay to Norfolk.

From Norfolk through the Elizabeth River to the canal, and thence, back of the much-dreaded Hatteras, across Albemarle and Pamlico Sounds to Core Sound. Through Core Sound to Beaufort, North Carolina.

From Beaufort it is practically outside work to Charleston, South Carolina. From Charleston to Jacksonville it is all inside, and safe for even the smallest craft.

Unless very unfavorable weather is encountered, a small steam yacht can run from New York to Jacksonville in three weeks.

Five feet six inches draft is about the greatest for the route described. About three feet six inches will be found most suitable.

DISTANCES IN MILES.

Savannah, through St. Augustine Creek and Wilmington River to Romerly Marsh Creek	18.00
Old Romerly Marsh Channel, New Cut, Wassaw Creek, Odingsell River, Adams Creek, to Vernon River	10.50
Vernon River, Hell Gate, Ogeechee River, to Florida Passage	6.00
Florida Passage and Bear River, to Middle Ground in St. Catherine's Sound	11.50
St. Catherine's Sound, through North Newport River and Johnson's Creek to Sapelo Sound	12.50
Sapelo Sound, through Mud River and New Tea Kettle Creek, into Doboy Sound	10.75
Doboy Sound, through Back and Little Mud Rivers to Altamaha Sound	8.50
Altamaha Sound, through Buttermilk Sound and Frederica River, to St. Simon's Sound	19.00
St. Simon's Sound, through Jekyl Creek, to Cumberland River, St. Andrew's Sound	11.50
St. Andrew's Sound, through Cumberland River, Cumberland Sound and Amelia River, to Fernandina	23.00
Savannah, Ga., to Fernandina, Fla	131.25

Amelia River, Kingsley's Creek and South Amelia River, to Nassau Sound	12.00
Nassau Sound, Sawpit Creek, Gunnison's Cut and Sister's Creek, to St. John's River	11.00
Sister's Creek to Jacksonville	18.00
Fernandina, Fla., to Jacksonville, Fla	41.00

TABLE OF DISTANCES.

New York to Philadelphia	97.50
Philadelphia to Turkey Point, Chesapeake Bay	59.50
Turkey Point to Norfolk, Va	170.00
Norfolk to Beaufort, N. C	174.75
Beaufort to Southport	106.50
Southport to Georgetown	83.00
Georgetown to Charleston	42.50
Charleston to Savannah	134.50
Savannah to Jacksonville, Fla	172.25
New York to Jacksonville, Fla	1040.50

LIST OF CHARTS.

No.		Year.	Price.
120.	New York Bay and Harbor	1894	.50
375.	Raritan River	1894	.50
126.	Delaware River	1896	.50
125.	Delaware River	1897	.50
136.	Chesapeake Bay	1877	.50
135.	Chesapeake Bay	1895	.50
134.	Chesapeake Bay	1896	.50
133.	Chesapeake Bay	1877	.50
132.	Chesapeake Bay	1877	.50
131.	Chesapeake Bay	1890	.50
137.	Cape Henry to Currituck Beach	1892	.50
140.	Albemarle Sound	1895	.50
142.	Pamlico Sound	1883	.50
143.	Pamlico Sound	1883	.50
421.	Core Sound and Straits	1890	.50
147.	Core Sound to Bogue Inlet	1889	.50
148.	Bogue Inlet to Old Topsail Inlet	1889	.50
149.	Old Topsail Inlet to Cape Fear	1897	.50
150.	Masonboro Inlet to Shallotte Inlet	1897	.50
151.	Little River Inlet and part of Long Bay	1888	.50
152.	From Murrell Inlet to Cape Romain	1896	.50
153.	North Island to Long Island	1896	.50
154.	Long Island to Hunting Island	1897	.50
155.	Hunting Island to Ossabaw Island	1897	.50
156.	Savannah to Sapelo Island	1897	.50
157.	Sapelo Island to Amelia Island	1877	.50
158.	St. Mary's Entrance S. to latitude 30° N	1882	.50
	Total cost		$13.50

UNITED STATES COAST PILOT.

VI.	Chesapeake Bay and Tributaries	1889	1.00
VII.	Chesapeake Bay entrance to Key West	1895	.50

ATLANTIC LOCAL COAST PILOT.

20.	Winyah Bay to Savannah with the Inside Passage to Fernandina	1885	.75
21.	Tybee Roads to Jupiter Inlet	1887	.75

TABLE OF DISTANCES IN NAUTICAL MILES.

New York (Battery) to New Brunswick, N. J.	30.50
Delaware and Raritan Canal to Bordentown	44.00
Bordentown to Delaware City	58.50
Chesapeake and Delaware Canal	13.00
Chesapeake City to Norfolk, Va	181.00
Norfolk to canal entrance	10.00
Albemarle and Chesapeake Canal	7.25
Canal to North River Light	39.00
North River Light to Harbor Island Bar Light	83.00
Harbor Island Bar Light to Beaufort, N. C	35.50
Beaufort to Southport, Cape Fear	106.50
Southport to Georgetown Bar	83.00
Georgetown Bar to Charleston entrance	42.50
Charleston to Savannah	134.50
Savannah to Fernandina	131.25
Fernandina to Jacksonville	41.00
New York to Jacksonville	1040.50

TABLE OF DISTANCE—DETAILS.

New York (Battery) to Perth Amboy	19.50
Perth Amboy to New Brunswick	11.00
Delaware and Raritan Canal to Bordentown	44.00
Bordentown to Philadelphia	23.00
Philadelphia to Delaware City	35.50
Chesapeake and Delaware Canal to Chesapeake City	13.00
Chesapeake City down Back Creek and Elk River to Turkey Point R. & B. Buoy	11.00
Turkey Point to Chesapeake Bay off Annapolis	36.00
Annapolis to Chesapeake Bay off Patuxent River	38.00
Patuxent River to Chesapeake Bay off Piankatank River	50.00
Piankatank River to Norfolk, Va	46.00
New York to Norfolk, Va	327.00

Norfolk up the Elizabeth River to canal entrance	10.00
Albemarle and Chesapeake Canal	7.25
Canal to Beacon Light No. 1, N. Landing River	9.00
Beacon No. 1 to Beacon No. 8	13.50
Beacon No. 8 to Beacon No. 9, North River	5.50
Beacon No. 9 to North River Light	11.00
North River Light to Croatan Light	13.75
Croatan Light to Roanoke Marshes Light	9.25
Roanoke Marshes Light to Long Shoal Light, bearing N.W., distant 2 miles	17.00
Long Shoal Light to Bluff Shoal Buoy	27.75
Bluff Shoal Buoy to Royal Shoal Lights, in range to S	4.75
Royal Shoal Light to Harbor Island Bar Light	10.50
Harbor Island Bar Light to Beaufort, N. C	35.50
Norfolk, Va., to Beaufort, N. C	174.75
Beaufort Sea Buoy along shore to Bogue Inlet	22.00
Bogue Inlet along shore to New River Inlet	13.50
New River Inlet along shore to New Topsail Inlet	18.00
New Topsail Inlet along shore to Wrightsville	12.00
Wrightsville along shore to Corncake Inlet	20.00
Corncake Inlet along shore to Southport	21.00
Beaufort, N. C., to Southport, N. C	106.50
Southport along shore to Lockwood's Folly Inlet	10.00
Lockwood's Folly Inlet along shore to Shallotte Inlet	8.00
Shallotte Inlet along shore to Little River Inlet	9.00
Little River Inlet along shore to Murrill's Inlet	32.00
Murrill's Inlet along shore to Georgetown Bar, Sea Buoy	24.00
Southport, N. C., to Georgetown, S. C	83.00
Georgetown Bar to Cape Romain, Sluebell Buoy	11.00
Cape Romain Buoy to Bull's Bay	15.50
Bull's Bay to Charleston Bar at Swash Channel	16.00
Georgetown, S. C., to Charleston, S. C	42.50
Charleston Harbor, Rebellion Roads, through Wappoo Creek to Stono River	7.50
Stono River to Church Flats	12.50
Church Flats, through New Cut and Wadmelaw Sound to North Edisto River at Martin's Point	13.00
North Edisto River, through the Dawho to South Edisto River	15.00
South Edisto River, through Mosquito Creek and the Ashepo River to Combahee Spit Buoy, St. Helena Sound	19.50
St. Helena Sound, through the Coosaw River, Brickyard Creek, Beaufort River and Port Sound to Skull Creek	36.00
Skull Creek, through Calibogue Sound to Inner Anchorage, Tybee Roads	16.00
Tybee Roads to Savannah	15.00
Charleston, S. C., to Savannah, Ga	134.50

In addition to above charts and pilot books, get the "List of Beacons, Buoys and Day Marks," for the third, fourth, fifth and sixth districts.

CANALS.

Delaware and Raritan Canal.—Locks two hundred and ten feet long and a width to pass clear twenty-three feet four inches.

Greatest draft of water allowed is seven feet.

Chesapeake and Delaware Canal.—Locks two hundred and twenty feet long and twenty-four feet wide.

A draft of nine feet can be carried through the canal.

Albemarle and Chesapeake Canal.—Allows passage of vessels two hundred and eight feet in length, thirty-nine feet breadth and eight feet draft. One lock.

On these canals all bridges have draws which open. Spars and stacks can be left standing.

From New York to Norfolk no special sailing directions will be given.

The charts and pilot books published by the Government cover the ground fully.

From Norfolk to the canal entrance navigation is intricate.

The buoys cannot be kept painted their respective colors owing probably to the large number of timber rafts which run down the river and frequently foul them.

The best way to proceed is to use the chart

and buoy book, checking off with pencil the buoys as they are passed.

CORE SOUND.

On Harbor Island, at the entrance to Core Sound, there is a gunning club.

You can carry six feet of water to its dock.

Mill Point, from the eastward, appears at first as a low point to the S.W. Then high trees will be made out, with two white houses and a barn to the W.

Piney Point is a low, marshy point, and the channel runs close to it.

At times the channel seems marked with more stakes than shown on chart No. 421.

The channel appears well marked until you get to Davis Island and Bell Point. From here to end of Sound the beacons are further apart.

In turning the N.W. end of Harker's Island stand well to the N.W. before turning, as the shoal seems to extend further than chart shows.

On arriving at Shackleford Banks' Buoy it is well to anchor and await a pilot.

The passage from here to Beaufort is intricate, and many yachts have grounded through lack of local knowledge. The pilot's fee is $5.

Beaufort Harbor.—Anchor off the railroad dock at Morehead City, lying E.N.E., about one hundred and fifty yards from its end. The anchorage is not very good, owing to the hard sand bottom. It requires a heavy and sharp-fluked anchor to hold well here. Shelter from a northeast storm may be had in the lee corner of the dock, close to the shore. The water is deep there, but the berth suitable for a boat only about fifty feet in length.

Inlets between Beaufort and Charleston.—The coast from Beaufort entrance to Bogue Inlet has a general trend of W. ¾ S. For five miles to the westward of Beaufort entrance, the shore shows a range of sand hills partly covered with coarse grass and scrub, over which show the heavy woods on the mainland. To the westward of that stretch of five miles, a growth of scrubby woods begins on the shore, and extends to within half a mile of Bogue Inlet. Bogue Inlet is considered a good inlet. Eight feet can generally be found on the bar at low water. Run in by keeping in best water, and anchor behind the eastern point of entrance.

New River Inlet.—Good for high water only. About six feet of water will be found on the bar. There is a big sand hill on Turkey Point, the western point of entrance, which serves as a landmark.

Topsail Inlet.—Fair inlet. At high water about eight feet of water will be found on the bar. The sea breaks right across this inlet when the wind is at all heavy from N.E. Eastern point of entrance is a low sand spit. There are some high sand hills on western point of entrance. When you open the inlet clumps of trees will be seen inside on the higher mainland.

Masonboro Inlet.—About eight feet of water at high tide will generally be found on this bar. A big house with cupola on its west side is a landmark when in this vicinity. From a long distance it looks like a sail on a vessel close to the shore.

Corncake Inlet.—This is a fair inlet when the sea is smooth. About eight feet of water on the bar, but it shoals up inside. The channel is narrow. By running in this inlet about sixteen miles of outside running is saved and

the Frying-Pan Shoals avoided. About five and one-half feet can be carried among the marshes back of Cape Fear.

Lockwood's Folly Inlet.—About one mile east from this inlet there is a high, bare sand hill that shows plainly and is a good landmark. It is called Lockwood's Folly Hill. This is a good inlet, with about ten feet of water on the bar and deeper water inside. Look out for old wrecks in entering. To run in, follow along the western side, leaving the shore about one hundred and fifty feet away. When in, turn to W. and N. and anchor inside Sheep Island.

Bacon's Inlet.—Some houses are seen in shore on the mainland near this inlet. At high water it frequently breaks clear across, and is a poor inlet.

Shallotte River Inlet.—In approaching this inlet from the eastward two high bluffs with trees are seen ahead. From a distance they look like islands. These high sand hills with trees on top are about two miles west of Shallotte Inlet. There is about seven feet of water on the bar at high water. Run in heading about N. and anchor inside east point of entrance. Vessels of four feet seven inches draft can go fourteen miles up the river, where there is a bridge without a draw.

Tubbs Inlet.—A poor inlet and good for high water only. After getting in over the bar track the east prong and anchor inside east point. There are some high woods back of inlet and houses to left. The sand hills are not high here.

Little River Inlet.—This is said to be the best inlet between Cape Fear and Georgetown. At low water on the bar about five feet six inches of water will be found. There are two openings in the beach at the inlet, called the West Bar and the East Bar. Between the two there is a bare patch of sand called Bird Island. The channel is crooked and said to be very changeable.

Murrill's Inlet.—This is said to be a good inlet at any tide. There is generally six feet of water on the bar. Go to the north after getting in.

From Georgetown it is possible to run inside to Charleston. Unless the sea is very bad outside, it hardly pays to make the run. Pilots may be had in Georgetown, or one might follow the local sternwheel steamer which runs to Charleston.

The route is given, as it is not indicated on the chart.

TABLE OF DISTANCES IN MILES.

Inside Route Winyah Bay to Charleston.

Winyah Bay, through Mosquito Creek to North Santee River	8.00
North Santee River, through Six Miles Creek, South Santee River, Alligator Creek, Ramshorn Creek, the Needles, Roman River, Bull River and Bull's Bay to Bull's Harbor	40.00
Bull's Harbor, through Bull's Narrows, Santee Pass, Capers Inlet, Bullyard Sound, Dewee's Inlet, Long Island Narrows, Breech Inlet and Sullivan's Island Cove to Rebellion Roads, Charleston	21.00
Winyah Bay to Charleston	69.00

Part Second.

CHARLESTON TO JACKSONVILLE.

From Charleston to Jacksonville the route is mainly through small creeks and rivers, and is indicated on the charts by a dotted line.

The streams connecting the inlets and sounds are all subject to tidal ebb and flow, and receive their waters generally from both ends; at the meeting of the tides there is usually a shoal, called the "divide."

In most of the streams the ebb tide forms

a shoal in the eddy below the points, and the sharper the bend the longer the shoal. These are called "ebb tide shoals."

As a rule, the bottom is soft, except where there are oyster beds and in the phosphate rock bottoms.

From Charleston to Fernandina a draft of about seven or eight feet can be taken, but such a draft requires high tide at many places.

From Fernandina to the St. John's River there are places with only one and one-fourth feet at low water. At high water about four feet can be taken through.

Vessels of over one hundred feet in length sometimes experience difficulty in rounding some of the sharp bends which are encountered in the passage, the channel of which in some places is extremely narrow and crooked.

A little experience will enable one to tell at a glance "by the lay of the land" just where the best water is.

Taking any one of the crooked rivers as an example, a careful study of the chart will show the law which governs the formation of shoals. It will also show how the ebb tide scours out a deep channel.

All compass bearings and courses are magnetic and all distances are in nautical miles.

Leave Charleston at half flood.

Run up Ashley River, and when opposite the mouth of Wappoo Creek steer for it on a course S.W. by W. ¼ W. Keep two tall chimneys in Charleston in range astern.

On north side of creek, at the entrance, there is a large building, on which is a sign, "Acid Phosphate."

After entering, for deepest water in the first reach keep left side of creek best aboard. Just before reaching woods on left side haul over to right side. Make turn, steering about N.N.W., and keep right side about ten yards off for best water.

On point to right and ahead are seen two houses. Go to that side, then make for point to left, running along close to left shore. Keep middle of creek, as piles are seen ahead on left side.

Turn to left through New Cut, which will be seen ahead. Steer through middle of cut until two stakes are seen to right, then cross to left side.

Elliott's Cut will now be seen ahead. Some high trees are on each side, with rather higher banks. Steer through middle of cut, running out into Stono River on same compass course.

Stono River.—When the Stono River opens up to the left, run in on a course about W. ½ N., keeping left bank best aboard to avoid sand bars to right, as the chart shows. When reach to north is well opened and a large grove of trees is abeam to left, cross gradually to right bank, steering about N.W. by W. ½ W. Steer straight for dock on first phosphate mill seen on right side ahead. When abreast of this, steer for and follow along left side. Course about W. by S. Near here is a sign on a mill, "St. Andrew's Phosphate Co."

When up with a small creek to the southward and the points of the next reach are open, change gradually to the northward of west, rounding the point to the north, about one hundred and fifty yards distant.

Now steer a course about N.W., the next point showing on your port bow.

When the reach beyond this point is open, steer about W. by N., leaving the left bank seventy-five yards off.

When abreast a small creek on the port hand, cross the river to round the point to the north, passing along right bank on a course N.W. ½ N., leaving shore twenty yards away.

When nearly up with point on left side cross again to that side of river.

Now keep left bank best aboard, afterward steering to middle of river.

A little past here is Rantowle's Creek. Head for mouth of it, then make for left shore.

From Rantowle's Creek to Church Flats keep middle of river.

Church Flats.—When nearing Church Flats a small settlement is seen under some tall trees. It is called Wide Awake.

A dock just west of settlement is Wide Awake Landing.

Church Flats begin at the white house on a bluff, with dock making off from it.

In running through Church Flats keep to the left after leaving white house just mentioned. When abreast of last small cabin with chimney on west side of it, which is seen to the right, the water deepens. Channel well to left here. From here keep rather to left of middle. Tides meet at Church Flats. It is a "divide."

There are wrecks and stumps on west side of Church Flats.

Slow down when you see well inshore a small cabin on the right side. There are some wrecks here just off the mouth of a small creek near this cabin.

New Cut.—When running through New Cut some large white buildings are seen ahead, which at first appear to be on right side of river. They are later seen to be on the left side, and the settlement is New Cut Landing.

Church Creek is seen to the left when nearing the settlement. Keep left side best aboard from Church Creek to buildings at New Cut Landing. There is a store and post office here.

Wadmelaw Sound.—When out of New Cut steer along left bank. Openings to the right will be seen here. Ahead a point will be seen to the left. White houses on mainland with dock making out. There is a house on the dock. At this house to the left you open up Wadmelaw Sound. Two range stakes will be seen ahead and they mark the shoals.

Steer to right of first one, leaving it fifty yards to port. The shoal well to S.W. of first stake is bare at low water. Then steer to south, crossing between stakes, leaving second one fifty yards to right.

Steer through about S.S.W. at low water.

On page 22, "List of Beacons," etc., it will be seen that three beacons have been established here. The above was written previous thereto.

Now round to westward, passing small settlement to left, then a clay bluff, keeping about one hundred yards off, and steering for middle of low woods seen ahead. Gradually round to N.W. by W., then N.W. ½ W., when you will open up some houses to south.

Steer for white house on the dock ahead at Enterprise, leaving low, marshy point with stakes on it twenty yards to left, and steering about S.S.E. ½ E.

Steer along half-way between the dock with house on it to left and marshy point to right. Right here you will see a large house to the left with two trees on west side of it. Gradually round to W., then W. by N., keep-

ing about seventy-five yards away from the left shore.

Some houses will be seen ahead, with heavy grove of trees to left of them.

Steer along W.N.W. for north edge of woods. When a creek opens to north of you and white houses bear S.W., steer along W. S.W., then gradually round to S. about two hundred yards off right shore. There is a yellow clay bank here. Then steer S.S.W. for highest building seen ahead on Young's Island. Railroad station, post office and stores here.

Steer for end of wharf, then steer S. by E., leaving point of Young's Island twenty yards off.

Leave next point twenty-five yards to left, steering S.W. ½ S. Then steer S.W., shifting to S.W. by W. for Martin's Point, which will be seen ahead. This is a long, low, marshy point, and appears to head you off to the westward. Gradually round to W.S.W.

Wadmelaw River.—When to west of Martin's Point, round it, leaving it seventy-five yards to left, and then head about S.S.W. When seventy-five or one hundred yards off land ahead steer along with it, making about a S.E. by S. course, and leaving marshy point seventy-five yards to right.

When end of point to right bears S. steer about S.E. by E., gradually rounding to S.S.E., leaving point one hundred and fifty yards to right. A low, marshy island is seen ahead. Leave the south end of this island seventy-five yards to the right of you.

Now steer about S.W. by W. for round tree seen over marshy island ahead, afterward rounding to W.S.W.

Steer along, leaving marshy island thirty yards to left. Steer about W.S.W. ½ W. around point to left, after rounding which steer S.W.

A broad expanse of water is now seen ahead.

North Edisto River.—Bluff point to left is a bluff about twenty feet high, with trees and houses on it. Away off in the distance Wadmelaw Point is seen. It is a long point of marsh.

Some stakes off Bluff Point mark the edge of the shoal water. Steer about S.W. for opening seen ahead, which is the

Dawho River.—Large, scattered trees are seen beyond the Dawho River. The entrance is between two marshy points.

It is shoal off the southwest point at the entrance.

Enter, steering fairly close to White Point, and when inside steer about S.W. by W. for Marsh Island, seen ahead. There are stakes on edge of this land. Leave the island forty yards to left.

After leaving island gradually round to S.S.W. and opening will be seen to right, ahead, with stakes to left before you reach it. When stakes are abreast round to W. by N., then W.N.W., then N.W., giving point to right a berth of one hundred yards. On some low ground ahead a settlement is seen.

There are high trees back of it. This is White Point Plantation.

When point of marsh to left bears W. and is one hundred yards off, commence to round it, going to right of the small marshy islands.

Steer W., then W. by N., leaving all these islands one hundred and fifty yards to the left.

Steer N.W. by N., running over to right side of river as the reach opens. When past

these islands you are in the narrower part of the river. The water is now good in middle of the river until you reach the

South Edisto River.—After running out of the Dawho River, follow along the left bank of the Edisto at first, and from here to the mouth of Mosquito Creek use the chart.

There is good anchorage ground to south of Marsh Island near Dawho entrance. The water is always fresh here, and it is a good place to fill tanks.

Mosquito Creek.—A small cabin and a tree are on the west bank of the Edisto at the mouth of Mosquito Creek.

The shores of the Edisto are low and the tree is a good landmark in the night time.

Some houses are on the right bank of the creek near its mouth.

Mosquito Creek runs almost dry at low water, with the exception of a very narrow channel. It is one of the most difficult parts of the passage. Take high water to pass through. Take middle of creek from the Edisto to the Ashepoo.

Mosquito Creek is very narrow. When woods to right are passed you are in the shoalest place. The creek widens after passing here.

Ashepoo River.—When you run out of Mosquito Creek turn to left and steer for some piles seen on left shore. Steer down first reach, leaving left shore forty yards off. Then keep middle of river to its mouth.

After leaving buoys at mouth of river steer S.S.W. for old tower seen ahead in St. Helena Sound. This is an old and abandoned lighthouse.

St. Helena Sound.—Run across the Sound as per chart.

Coosaw River.—The land on each side of the entrance to this river is low and marshy.

A short distance up the river dredges are seen at work on the phosphate beds.

Use the chart in running up the river. Parrot Creek is around a low, marshy point to the left. When near Parrot Creek steer W. by S. for buoy seen ahead.

When up with buoy No. 1 a large white building will be seen on Ladies' Island to the S.W. This is a cotton house. A little north of this is a dock with a building nearby on the mainland. This is the Custom House.

The north point of Ladies' Island is a low marsh. From buoy No. 5 the entrance to Brickyard Creek is just around point to the left, with high trees back of it. The point is low, with scattered trees, among which is a white house.

Brickyard Creek.—Make red and black buoy to east of creek, then steer about west for the entrance.

Coosaw Mining Company's works are N.N.W. of this buoy. Here there are machine shops, marine ways and a post office.

Head into creek about W. by S., leaving left point seventy-five yards off.

Follow along the left shore, leaving it sixty yards off. The course is about W.S.W. Just around point to left a dock will be seen, with houses back of it. Pass about twenty yards off end of dock, which is called Brickyard Store.

From the point on the port hand at the end of the first reach steer about S.W. for the point on the west side, being careful not to close the points astern (the one just left and the one at the northern side of the entrance to the creek) until well across toward the west

bank. As you approach it change course to about S., heading for the houses which will be seen in that direction, hauling gradually to the westward as you approach the southern bank. Follow this side until you are heading about W.S.W., when you must edge across again, hauling to the southward and to the southward and eastward, passing close (within thirty yards) to the eastward of a small islet situated in the center of a bight on the west bank.

Then follow along right hand shore, steering about S.E. by E. for clay bank seen ahead.

Now steer in to left shore, leaving clay bank forty yards to left. After this hold middle of creek, except when rounding points.

Beaufort River.—Use chart for this river.

Port Royal Sound.—When between buoys Nos. 4 and 7 at the mouth of Beaufort River, steer about S.W. by S. until up with Paris Island Spit Buoy (red and black), when change course to W. ¼ N., passing Daw Island Spit Buoy (red and black) close aboard.

From this position steer W. by N. for the entrance to

Skull Creek, which heads you a little to south of edge of woods seen ahead.

When left point of entrance bears about S.W., run in to west course, gradually rounding to southward and westward as mouth of creek opens away off inshore.

Do not approach left point nearer than one-fourth mile, or go as follows:

Having arrived off Skull Creek, bring the extremity of a small wharf, situated on the south side of the creek at Seabrook, just open of the northwest side of Bobb's Island, and stand in for the middle of the creek on a course about S.S.W. ¾ W., and as you approach the western entrance point, follow along with that side best aboard. As you get in the mouth of Skull Creek, three or four houses are seen among trees on left point—Seadrift Landing. When these houses are one-eighth of a mile off, head W.S.W., following along north or right shore, and leaving it about fifty yards off.

Follow right shore clear around, passing inside of small shell bank seen to left with stakes on top of it.

When one-fourth of a mile past this, give the shore a wider berth, heading S. by E. and running over to left shore.

Just as you get here, is a bad spot. Steer S.W., going by a creek which makes in from north. When just past this creek, steer about W.S.W., keeping middle of creek.

Steer along about W.S.W., when two small cabins will be made out on point ahead. Keep right shore sixty yards off, rounding to S.W. as point nears. Three or four higher buildings will be seen on left shore ahead. Keep in middle as you near these houses, steering S.W. ½ W.

A dock is now seen on left hand side on Jenkins Island. Head in close to left shore as you near the dock, then follow left shore, afterward crossing to right shore and leaving it fifty yards off.

A row of palmetto trees, with cabins, are seen to right as you near the mouth of Skull Creek.

Calibogue Sound, Tybee Roads and Savannah River.—No written directions are necessary. Use the chart.

If too rough to enter Savannah River by way of Tybee Roads, it is possible to go more

inside by way of the Cooper River and connecting streams.

The sailing directions are given in "Atlantic Local Coast Pilot," sub-division 20, page 149.

The wreck at mouth of Ramshorn Creek does not show above water when tide is three-quarters flood. Go close to south point.

Savannah.—If possible, leave Savannah on the first of the flood tide.

South Channel.—Having arrived off the northern entrance of the South Channel (leading to St. Augustine's Creek), keep close to the obstructions on the starboard side at the entrance; but when passed, cross the channel to within about twenty-five yards of the Elba Island shore, and hold that shore until the single palmetto tree on St. Augustine's Creek opens clear of the western point of the creek; then steer for the entrance about south and enter it with the western point close aboard.

When fairly inside, edge out into the middle of the stream, and hold it until you reach the Wilmington River.

Pass through railroad bridge, always using the east side of draw, afterward steering to right.

After a time the buildings at Thunderbolt will be made out.

Good artesian well water may be had at a dock in Thunderbolt.

Wilmington River.—Use chart for this river.

New Cut, Wassaw Creek and Odingsell River.—Use chart for these waters.

Keep to the left all the way through Wassaw Creek after leaving New Cut.

Adams Creek.—Use chart for this creek.

In running out of mouth of creek keep left bank ten yards off (Little Wassaw Island) until southern side of marsh to starboard is well open. Then steer W.S.W. The chart is incorrect here. Leave island two hundred yards off, heading S.W. by W., as you approach its western end.

Give its western end a berth of one hundred yards.

Now steer west for entrance to

Hell Gate.—Entrance to Hell Gate is to right of sand bank, on marsh to left side and ahead. Raccoon Key has low trees on it.

Make turns as shown on chart and run up the

Ogeechee River, steering along right side and keeping it fifty yards off.

Hold right shore until you approach point to right with grove of palmetto trees, on somewhat higher ground.

The entrance to Florida Passage will be seen to bear S.W. by W. to right of low marsh point seen ahead, with high trees away off in the distance.

Florida Passage.—Steer for middle of entrance, W.S.W., and use the chart.

Bear River.—Use chart for this river. Just on the other side of Kilkenny Creek, a sand bank and higher land shows ahead.

When you open the last reach in this river and see the open waters of St. Catherine's Sound, steer about E. by S.

On this course you will sight black buoy No. 1 (on Medway Spit) on the starboard bow. Pass this buoy on your starboard hand and steer W.S.W. between Medway Spit and the Middle Ground.

Round the red buoy as chart shows and steer for

Walburg Creek.—There is a beacon on the west point of entrance to this creek.

Work the creek as the chart shows and run down to

Johnson's Creek.—Entrance to Johnson's Creek is through low marshes. As you open the mouth of creek high woods are seen ahead. Steer in about S.E. by E. Keep middle of creek until you near its southern mouth, then take the left bank as the chart shows.

Sapelo Sound.—Cross Sound as the chart shows, heading for

Mud River.—The entrance to this river is buoyed. Sapelo Island, to the left, is covered with high trees.

Having passed black buoy No. 3, steer S. W. by W. ¾ W. until you open the western shore of the island to the southward of High Point. Then steer S.W. ½ W. for Mud River buoy (black No. 1).

One-half mile S.W ½ W. of buoy No. 1 is a stake to mark the shoal to south. Go to right of it about twenty yards. Keep course S.W. ½ W., and steer for stake on point of marsh ahead and to right. Keep forty yards off right shore as you near the stake.

This stake has a round barrel-head nailed to it which is painted white. Follow along same course until you make a smaller stake (about one hundred yards to S.W. of barrel-head). When up with this steer S.S.W. for entrance to

New Tea-Kettle Creek.—Leave left point fifty yards off as you enter, and keep to middle of creek for best water.

The large lumber mills and other buildings at Doboy show as you run out of Old Tea-Kettle Creek.

Doboy Sound.—From the mouth of Old Tea-Kettle Creek steer about S. for the red buoy, and turn to right, drawing in to the right bank.

North River.—At Doboy Island dock there are stores, a post office and good artesian well water.

When you open the passage between Commodore and Doboy islands, steer for the western point of Doboy Island, and follow along its western side about fifty yards distant until up with its southern point.

You will then pass from the North into the

Back River.—Steering a course to the eastward of south, and gaining the eastern shore before you are up with a small island situated in this reach about half a mile beyond.

Hold the eastern bank close aboard until you are up with the point at the junction of South River, when you must cross to the western bank with Sapelo lighthouse astern.

Little Mud River.—Keep left shore twenty-five yards off at first, afterward leaving it forty yards off as the mouth of the river is neared.

Altamaha Sound.—Some high trees are seen ahead as you open this Sound. When Little Egg Island opens it will bear about E.S.E., when you must steer S.S.E., crossing Little Mud River Bar, where you will find four feet of water at low tide. As you cross the bar, looking about S.S.W., you will see two marshy points just opening. The channel passes to the westward of the more distant one, but a direct course to it cannot be taken.

After you have crossed the Mud River Bar and have deepened your water to ten feet or more, steer S.E. ½ E. for half a mile, heading for the northeast point of Egg Island.

Then change course gradually to the southward and westward, and as soon as you deepen your water to eighteen feet or more steer W.S.W. and hold that course nearly three-fourths of a mile, passing into the opening between the two marshy points mentioned above.

When you make out the one on your port bow distinctly, bring it to bear about S.W. and steer so as to pass it close aboard (twenty yards off).

The channel to the westward of this marsh island is very narrow, but nine feet is the least water to be found in it. The land right ahead is higher, with some bushes on it.

Steer W.S.W. along St. Simon's Island, keeping left shore about fifty yards off.

Buttermilk Sound.—As you near this Sound steer N.W. ½ W. for Broughton Island, leaving point to right with low bushes on it seventy yards off.

One Mile Cut will be seen open and ahead.

Follow along Broughton Island, leaving the shore seventy-five yards away.

Frederica River.—When the left point of entrance to Frederica River bears about S.E. by S. steer over for it. This point is rather high, with bushes on it.

Keep left point twenty-five yards off. Follow along left shore, steering about S.E. Work river same as others, giving all points a good berth.

As you run on last stretch of Frederica River you see the lumber mills of the St. Simon's Island Lumber Company to the left. There are some large sawmills here.

St. Simon's Sound.—When abreast of black buoy No. 1 at mouth of MacKay's River, steer about S. by E. for the north end of Jekyl Island, and when nearly across the Sound change course to the westward of south, passing to the eastward of red buoys in the Brunswick River.

Jekyl Creek.—From red buoy No. 10 a white shell bank with beacons on top of it is seen at the mouth of this creek.

From red buoy No. 10 steer about S.W. by S. until up with the buoy off Jekyl Creek.

From this buoy you will see two tripods in range to the westward of the mouth of creek. Steer about S. ¾ E., holding this range until the mouth of the creek opens, when change course to the eastward and enter the creek, keeping in the middle up the first reach.

As the creek widens out, go forty yards to the left of the two small hammocks seen to the right.

When abreast of smallest hammock steer over to cupola of club house, afterward steering inside of point ahead, as the chart shows.

Good artesian well water may be had at the club house dock.

Run balance of creek as chart shows, keeping Jekyl Island best aboard.

St. Andrew Sound.—After rounding the south point of Jekyl Island steer S.E. until up with a red and black buoy on east end of Horseshoe Shoal and N. by E. from the lighthouse.

When up with this buoy steer S.W. by S. into the

Cumberland River.—Follow the Little Cumberland Island shore until the lighthouse is shut in by the woods, when steer S.S.W. ⅜ W. for the extremity of the high point of Cumberland Island.

When abreast the long wharf on this bluff point change course gradually parallel with

the shore and continue around the point and to the end of a small strip of shell beach nearly abreast the lower end of the woods.

Cross the mouth of Brickhill River, steering about S.W. ½ W., keeping well to the eastward of the middle of the Cumberland as you approach its southern entrance point; but when up with it edge across to the western bank, toward the mouth of Shellbine Creek.

Follow the western bank best aboard until you have turned the point one and a half miles below and are heading a course to the southward and eastward, when you must cross to the port hand bank.

About one and a half miles below this you will see the mouth of Delaroche Creek, with a small marsh island a short distance to the northward of it.

When nearly up with the marsh island, with the eastern bank close aboard, steer for Delaroche Creek, crossing the river, and when nearly up with it, change course gradually to the eastward, crossing its mouth and holding the right hand bank close aboard.

After following this side about one-fourth of a mile, cross again gradually to the eastern side.

You will now make out to the southward and eastward a cluster of small, marshy islands. The channel lies along the east side of the most eastern island.

Leave the east side of this island thirty yards off, and when its southern end is reached turn to starboard and run along by the south end of all these islands until point of mainland ahead is reached.

Follow closely along this right hand shore for one hundred and fifty yards, or until a pile of stone ballast is reached, when turn sharply to port, and steering S.S.E. a small marsh island about fifteen feet in diameter will be seen ahead and in range with the end of a marshy point just beyond. When you near this islet turn to south as chart shows, leaving a small island about one hundred and fifty yards to the right.

Then steer S.S.W. ⅛ W. until you are about one hundred and fifty yards from the shore of the next large island, to the southward of the small one.

From this a course of S. ⅛ E. must be steered, crossing to the other side of the river. As you approach this port hand side you will see to the southward a large marsh island lying in the middle of

Cumberland Sound, below King's Bay. Steer with the northern end of this island a little on the port bow, and as you near it steer to pass along its western side and to the westward of the next island to the southward.

When you are abreast the latter you will see another island nearly ahead (about S. by W.). Continue on the same course until you are within one-fourth of a mile from the island ahead, when change course a little to the eastward of south.

When abreast the northern point steer about S.E. by S. for half a mile, after which follow the Cumberland Island shore until you sight the red and black buoy on Tiger Island Spit. Pass to the northward of this buoy and enter the

Amelia River, keeping the eastern shore until you arrive off Fernandina.

From Fernandina to the St. John's River is a difficult piece of navigation.

It is better to take a pilot.

After leaving Fernandina you go through County Bridge, just before you get to railroad bridge shown on chart.

The water is shoal to the left just before you go through the County Bridge.

As you run out of Kingsley's Creek it is very confusing. Keep to the right for channel. It is staked on banks to right as you run for main shore to starboard.

As you enter Gunnison's Cut two or three palmetto trees are seen to left and about one-quarter of a mile from shore.

When near the entrance to Breward's Cut there are some wide places. The channel is to left, and there are shoals in the middle.

There are numerous oyster banks in the Sisters, and at the mouth of it the navigation is too crooked to be described.

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